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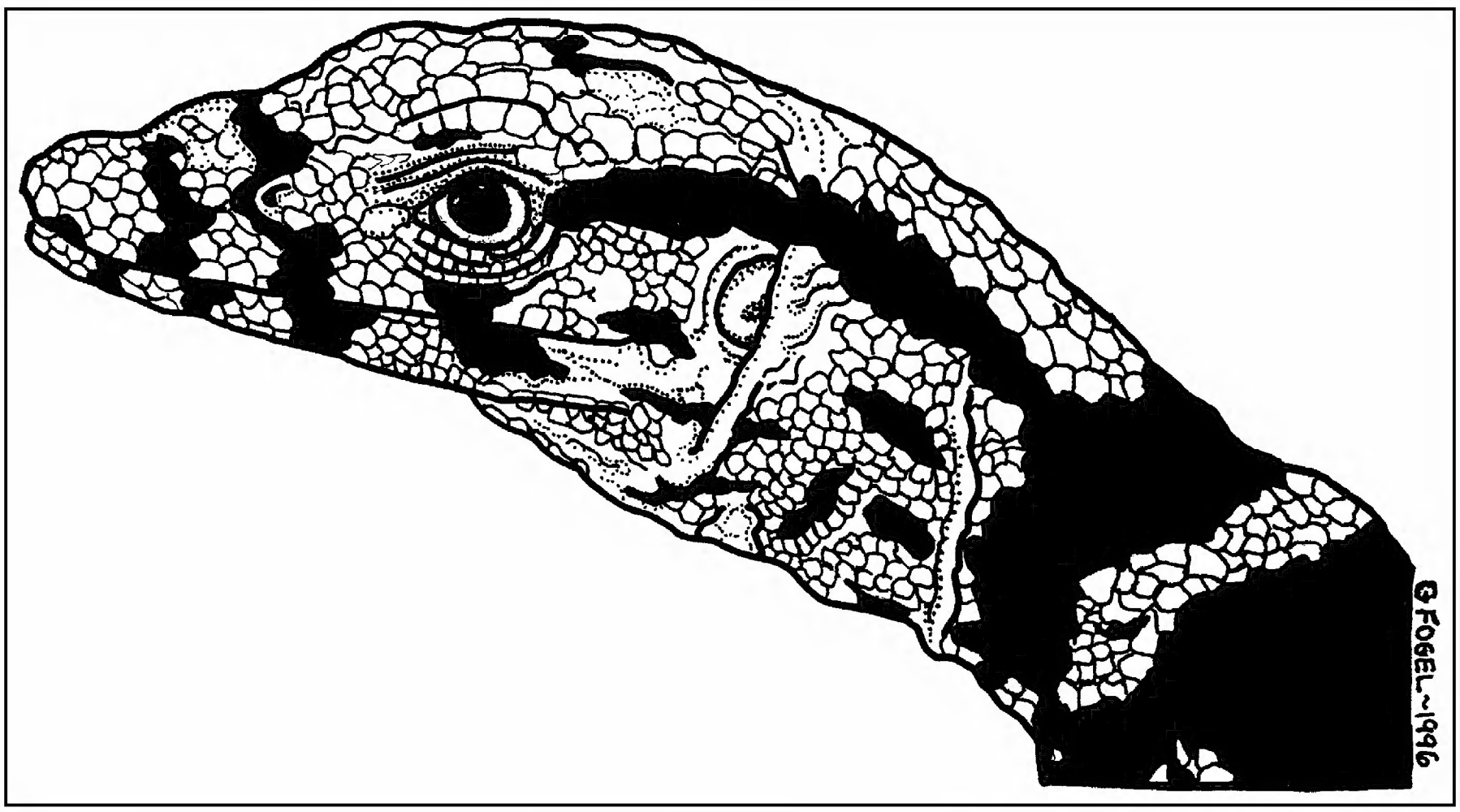

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Forensic Herpetology I: The Rattlesnake in the Mailbox Attempted Murder Case

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The only eyewitness to the alleged attempted murder was a neighbor, Mrs. Edie Ditmars. On October 10, 1978, at about noon or one to two hours thereafter, she observed a blue-green Plymouth sedan pulling up and parking on the street or driveway of the neighbor's house in Pacific Palisades, California. Passing by Mrs. Ditmar's window, 16 feet from her view, one of two men left the car and walked up the driveway (Figure 1). He walked up to the door of her neighbor, Mr. Morantz, a Los Angeles attorney. The man spent about seven seconds at the door. Whether he was carrying an envelope or package, and whether he put anything on the doorstep or in the mail slot is unknown. Mrs. Ditmars heard a "plop" but could not remember any package. Later, chronology analysis timed the walk from the car to the door and back to the car at 18 to 20 seconds.

Mr. Morantz returned home between 1730 and 1745 hours carrying two bags of groceries. He placed the bags on the kitchen counter (see Figure 2) and let his two five-year-old border collies out into the front yard. When he was not at home, the dogs had access to and from the house to the backyard through a doggie door in the kitchen.

Within a few seconds, Mr. Morantz went to check his mail. He noticed that the hinged door on the lower, inside mail slot was slightly raised as if a magazine or letter were stuck behind it. He lifted the door with his right hand (he was right-handed, but used his left hand in sports), and put his left hand into the slot to retrieve his mail. He touched something that felt like material, perhaps velvet. When he withdrew his left hand a rattlesnake came out of the mail slot and bit him below the thumb of his left hand ("over metacarpus on dorsum of hand at base of the thumb"; Findlay Russell, pretrial hearing testimony). Mr. Morantz screamed and yelled for his neighbor to call the paramedics.

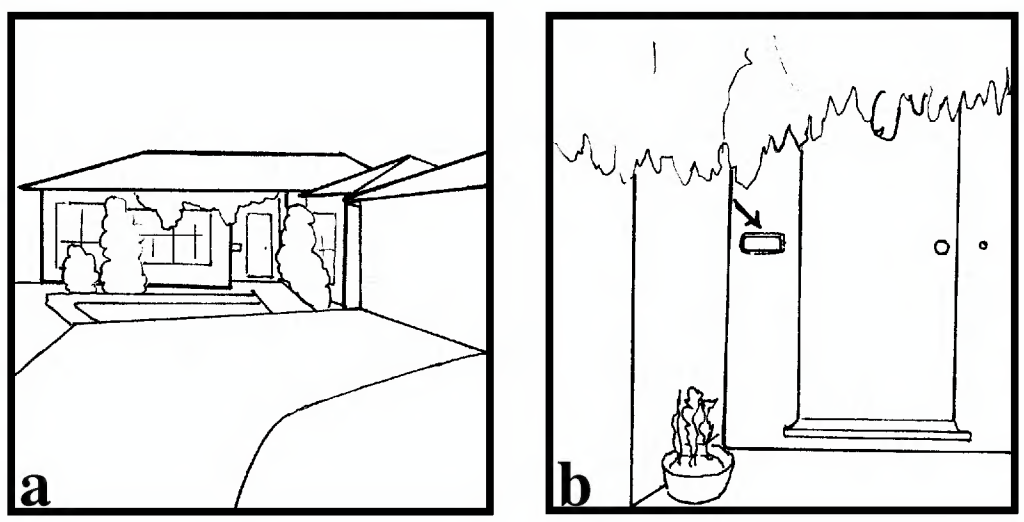

Figure 1. Diagrams of views of Mr. Morantz's house (drawn from photographs taken by Truesdail Laboratories, WC. 1979, Lot #792059): **a.)** from front driveway. The mailbox is just to the left of the door at arrow. Mrs. Ditmars' house is to the left of this view (use orientation of two walkways to compare with 1c and 1d). **b.)** front door outer opening, covered with a metal door. **c.)** view of Mrs. Ditmars' house from the end of Mr. Morantz's driveway. **d.)** View shown from Mrs. Ditmars' of Mr. Morantz's entry area.

The paramedics responded, probably within 20 minutes. They killed the snake (Figure 3) and threw the head down the toilet. Apparently, this was a safety measure adopted by paramedics. They saved the rest of the snake and took Mr. Morantz to the hospital for treatment.

The attending physician noted that the wound had three fang marks. Later in the pretrial hearing this was referred to as "four fang marks," "four incisions," representing "either one strike or two." Mr. Morantz survived with severe envenoming and swelling lasting up to two weeks. There was a drop in his platelet count. He was treated with eight (or 11?) vials of antivenin and 15 injections of painkiller. He was hospitalized for seven days.

After recovery, and with the help of the District Attorney of Los Angeles County, he sued the Synanon Corporation; Mr. Charles E. Dederich, founder; and the two men in the car, Joseph Musico and Lance Kenton. The latter two were members of Synanon's "Imperial Marines." Lance Kenton was the son of band leader Stan Kenton. This was continually mentioned in the media and provided more food for the media frenzy.

The men faced three charges: Conspiracy to Commit Murder; Assault with Force Likely to Cause Great Bodily Harm; and Assault with a Deadly Weapon, a rattlesnake, against Paul Morantz. The case was The People of the State of California vs. Charles E. Dederich, Case numbers A347266 and 346348. The lawyers for the prosecution were Deputy District Attorney John Watson and Co-Prosecutor John Hayes. The lawyers for Synanon were Philip C. Bourdette, Chris Haberman, and James E. Cox. The pretrial hearing was in April 1979, before Judge Vincent Erickson. There was a Change of Venue hearing on April 25, 1980, before Judge W. P. Hogoboom, and the trial was July 15, 1980, before Judge W. P. Hogoboom.

Problems Facing an Expert Witness in Forensic Herpetology

When there is a mystery or a legal/criminal case to be solved, we all want to know the whole story, so that we may put the pieces together and solve the crime. After all, we have seen Jessica Fletcher, Poirot, Miss Marple, Frost, Holmes, and Cracker solve crimes. The real criminal investigation is much the same, but the trial is far more as it is portrayed on "Law

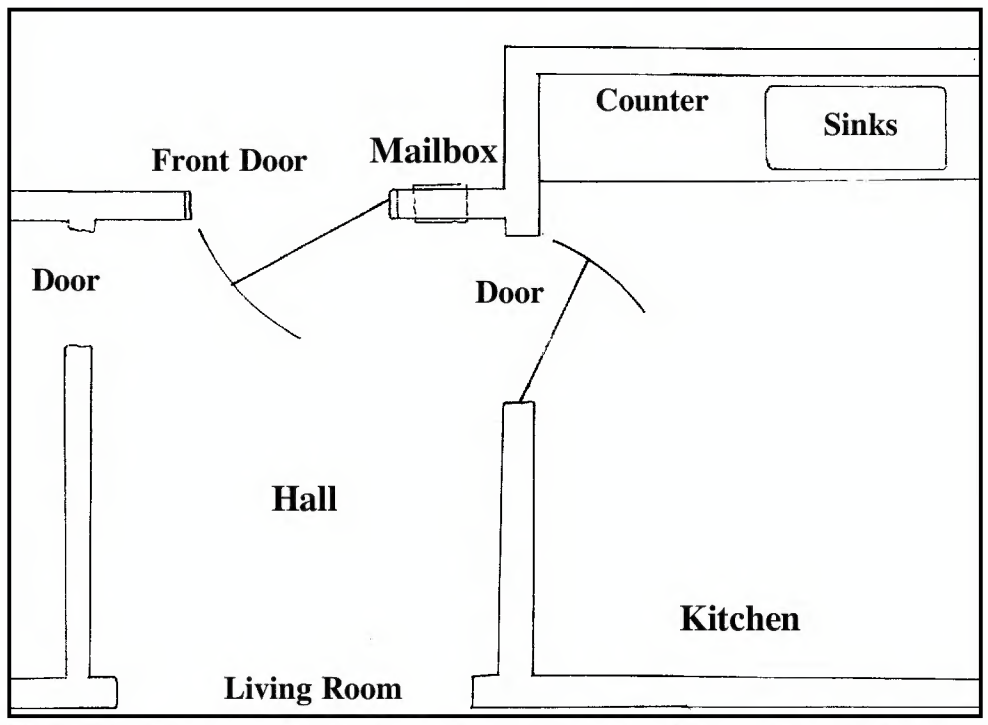

Figure 2. Diagram of entry area of Mr. Morantz's house, showing location of mailbox (redrawn from Truesdail Lab. #792059).

and Order," with backroom dealings and expert witnesses. The expert witness is, of course, interested in the entire case, but is hired just to do his job as an expert witness in his specific field.

As a mystery buff, I wanted to know the whole story, but I was hired to do specific things. The results changed the course of the legal events. The following is the history of the case, what I was asked to find out, my frustration at not knowing all the facts, and, the scariest part, having to answer complicated questions on the stand with only a Yes or No! The frustration is that of any expert witness in any field (Ayala and Block, 1993; Smith, 1993). Hopefully, my experience described in this and another case (Forensic Herpetology II, in prep.) will help others testifying before courts; or city, county, or state hearings; or presenting environmental testimony at public hearings (Foster et al, 1993; Lunney, 1992; Neufeld and Colman, 1990; Smith, 1993). As Sergeant Friday often said, "Just the facts, Ma'am, just the facts." This is all the lawyers want to hear (Loevinger, 1994).

A problem for the expert witness is the conflict of a scientist between being used to disseminating information freely to anyone who wants to know and the right of the client to privacy (whether a private party or a government prosecutor). But what about afterwards, especially if there is a plea bargain and no trial? Recently I was threatened with a lawsuit by the State of California Department of Fish and Game, partly because I released methods, not data, to other field biologists. After four years of threats, the case was dropped. This was partly because I pointed out that their then Director, who subsequently had been fired, had "borrowed" one of my privileged progress reports and released it to a large, land-owning corporation with vested interests in my data and results. This and other friendly corporations might have had a $3.4 billion loss if the lizard I was studying was listed by the state as a Rare or Endangered Species. I am not reporting on this out of ego or paranoia, but in hope of relaying the legal and financial complexity of acting as an expert witness or collecting data on an environmentally sensitive species.

In the rattlesnake case, I worked for the defense. Somehow the prosecution (Los Angeles Attorney General) found out the results of our experiments (probably through the legal discovery process); and since they knew they could not win the case, they cut an innocuous deal with the defense; and both sides saved face and money.

This raises an ethical question. Does one work for the prosecution, the defense, or as a friend of the court? If you are hired as an expert witness to do a specific task (examine bullets, blood, etc.), this task, the data, or experiments are the "truth," i.e., the facts that are needed in the case (Ayala and Block, 1993; Foster et al, 1993; Loevinger, 1994; Smith, 1993). In scientific testimony, assuring the innocence of the defendant is as important as proving someone guilty. Therefore it should make no difference whether you work for the defense or the prosecution. In most cases your report will be read and placed in evidence by both sides. Each word or phrase in your report will be worked over by lawyers far in excess of any editor or reviewer of a scientific paper. In another case (Forensic Herpetology II, in prep.), I was hired by the Prosecuting Attorney General of Los Angeles County for a specific task. The results ended up supporting the defense position and I testified on the stand for the defense. This and evidence from other experts won the case for the defense. Basically, I work for whomever asks and presents the contract or money first! Sometimes there is a conflict if the case is environmental. The expert witness may have a conflicting policy or position. In several such cases I served pro bono, or for minimal field expenses for me and my graduate students. In the Fish and Game case cited above, both the Game Biologist and I started the project with the hypothesis that the lizards that were to be studied would be shown to be so rare that they would be listed as rare or endangered. The study proved the null hypothesis, that the lizards were abundant and widespread. This is not what the Fish and Game Department wanted to hear and was probably the basis of actions taken against me. Almost all the money in the contract went to student salaries and travel time. I stopped paying my salary and expenses out of the contract monies so that we could get the work done.

Figure 3. Photograph of snake found at Mr. Morantz's house.

In the rattlesnake case reported here, I do not have all of the facts of the case. I do not know what other information either side had or what positions they may have argued at what point. What I do know and report on below are the studies I did, some of the court records, my court testimony, information provided to me by the defense, and media reports. I am confident of the truth of the first three, and unsure of the latter two. I will try to indicate this when and where I can.

How I Got Involved in the Case

One day in the spring of 1979, a person phoned me in my office wanting to know if I knew anything about rattlesnakes. As herpetologists we all get hundreds of such calls, asking about snakes, lizards, sick animals—so what was this person's next question? I responded that I knew a bit about rattlesnakes. The next question came: "Do you know *a lot* about rattlesnakes?" Wow! How does one answer that? I asked him what it was that he wanted to know. The third question was, "Well, do you know a lot about rattlesnake behavior, snakebite, and venom?" I answered that I knew a bit about the first, but that the two experts in the field of snakebite and venom at that time were Dr. Sherman Minton and Dr. Findlay Russell and that they should talk to them. I was informed that Dr. Minton was not available and that Dr. Russell was disqualified (see below, for the important part played by Dr. Russell). Did I know anyone else? I could have recommended any number of people, but the caller wanted someone available, local with high qualifications. The caller hired me (Letter, May 3, 1979), identified himself, and told me what he wanted. He was an attorney for the defense, i.e., Synanon, and the three named defendants.

My three-part task was: 1.) to identify the subspecies of the rattlesnake and attempt to determine from where in its range it came. It was a Pacific rattlesnake, *Crotalus viridis*. From conversations, the lawyer knew that I had worked on this subspecies of *C. viridis* in California, especially in the San Joaquin Valley and in the area where *C. v. oreganus* and *C. v. helleri* intergraded. The location of the snake's origin was critical because it might have been collected by Synanon near their "retreat" at Badger in the Sierra Nevada foothills east of Fresno. 2.) to review hours of videotapes, news reports, and newspaper articles to create an argument for bias against the case and the defense, so that the defense could ask for a change of venue out of Los Angeles County. 3.) to conduct experiments involving putting rattlesnakes in mailbox slots and determining how long they stayed in the mailbox. Even though the media and stand-up comics portrayed the rattlesnake being placed in a rural-style mailbox on a post, Mr. Morantz had the kind of mailbox built into the house wall, with hinged doors on both the outside and the inside. The inside slot was 18 in (45.7 cm) below the outside slot (see Figure 2).

Background and History of the Case

Synanon was started by Charles E. Dederich in a storefront in Santa Monica, California, in 1952 and over many years the group gained worldwide notice for its work in the rehabilitation of drug addicts and alcoholics. Later, it grew into a paramilitary cult organization with various bases and offices: Santa Monica; San Francisco; a small community in Marin County north of San Francisco; and a large paramilitary camp at Badger, 25 miles northeast of Visalia in the Sierra Nevada foothills of California (Enders, 1968; Mitchell et al., 1980). Synanon had money, presumably weapons, and power over its people. They had open telephone lines, with microphones and speakers, in *all* the rooms of all the facilities and offices, even bedrooms, so that anyone, anywhere, could hear everyone else (Mitchell et al., 1980; and personal observations).

Paul Morantz was a successful attorney, perhaps with political ambitions. He had just won a default judgment, in a civil suit, of $300,000 from a case against Synanon that had been filed by former members. A tape was obtained from the Badger facility on a search warrant obtained by the prosecution. On this tape Dederich is reported as saying: "I'm quite willing to break some lawyer's legs and tell him the next time I'm going to break your wife's legs. Then, I'm going to cut your kid's arm off. And try me, because this is only a sample, you son of a bitch. . . ." (Bill Farr, *Los Angeles Times*, July 3, 1980). On Channel 7 (ABC) 11:00 P.M. News, October 16, 1978, Morantz was quoted as saying that he was placed on a [Synanon] hit list after he won his $300,000 lawsuit against Synanon.

There is much more to the Synanon story. It was an organization which, after the final settlement in this case, dissolved and faded away. Perhaps the paramilitary–militia portion went partially underground. Interested readers should start with Endore (1968), Mitchell et al. (1980), and Rohrlich (1998). I know nothing more about Mr. Morantz, but it is important to note that he knew a lot about snakes, their habits, characteristics and range; and like many people, he had pet snakes as a kid.

At the preliminary hearing, on April 27, 1978, Judge Vincent Erickson withdrew from the case because he had had an informal talk with an expert prosecution witness, Dr. Findlay Russell, in his chamber. "Erickson and Russell talked for about an hour following his testimony, Russell made a 31-minute tape-recording discussing his comments in court and his talk with the judge. He sent the tape to Prosecutor John Watson, who reported the meeting to defense lawyers out of fear that the prosecution would be seriously compromised. Erickson withdrew from the case on Friday after a closed session with prosecution and defense lawyers" (from the Tulare, California, *Advance-Register*; Monday, April 30, 1979). I have read court transcripts which give Dr. Russell's testimony and his and the judge's remarks with regard to their private conversation; and from what I can gather, Dr. Russell, like all expert witnesses, was frustrated with the questions asked, those not asked, and having to answer complex questions with simple or yes-or-no answers. In any event Judge Erickson's withdrawal stopped the preliminary hearing. The next event was the change of venue hearing in which I was involved.

My Involvement and Studies

I was asked by the defense to review hours of videotapes that had been made of news reports and media coverage of the attempted murder in national and local TV reports; as well as

newspaper and other print media reports that had been collected and placed in a scrapbook by Synanon. Most of the latter has cartoons showing rattlesnakes in rural mailboxes with open mouths, fangs extended, and venom dripping from the fangs! Most of the articles made the snake the "bad guy" and had already convicted the defendants. Some examples: "Snake in the Mailbox: Junk Mail" (*Los Angeles Times*, Nov. 8, 1978); The snake is "A Weapon" (*Newsweek*, Oct. 12, 1978) and "Sinister" (*Newsweek*, Nov. 20, 1978); "Viper the Victor" with a picture of a snake being held up and pictures nearby of Nazis and KKK (*Pacific Southwest Airlines Magazine*, Jan. 1979).

TV "talking head" reporters usually mentioned the story and its development in front of a background picture of a rattlesnake, often in a rural mailbox, with mouth open and fangs extended. One also had the sign saying "Attempted Murder" (Christie Lund, Ch. 7, ABC). In another report there was a photo and "This is a picture of the actual rattlesnake involved in the case" (Connie Chung, Ch. 2, CBS).

The change of venue hearing was on April 25, 1980, before Judge Hogoboom. In response to questions posed by the defense, I talked about the fear of snakes being learned, not innate, and that the fear or dread of snakes is prevalent in the general population far in excess of their danger to people. I talked about the snake always being presented as the bad guy, from Adam and Eve to the present; the positive and negative roles of snakes in a variety of cultures; and some examples of extreme fear of snakes. I pointed out that most people survived snakebites, and so they are not a deadly weapon. The death rate is 10% from untreated *Crotalus viridis* envenomings in California and 5% from those with with treatment (Findlay Russell, pretrial hearing testimony). I also reported on my study of print and TV media and the basic media-hype over the case. The prosecution asked me about ophidiophobia, fear of snakes; learned vs. innate; and, as all lawyers do, nasty questions about my qualifications. The Judge asked me only one question, what was the origin or definition of the stem *herp*, as in herpes and herpetology! The judge ruled no change of venue and that the trial was to be held in Los Angeles County.

Subspecific Identification of the Rattlesnake

I was given the task of identifying the subspecies of the rattlesnake and, if possible the place of its collection. In the pretrial hearing, Dr. Findlay Russell identified the snake as *Crotalus viridis oreganus*, based largely on Klauber's (1956) key character that the dark tail rings were of uniform width and all clearly defined (*oreganus*), versus the last dark tail ring about twice as wide as the others and ill-defined. I examined the snake, minus the head, and photographs of the snake taken soon after it was taken from Mr. Morantz's house (Figure 3). It was clearly a *Crotalus viridis* and also clearly not a member of the coastal population of *C. v. helleri* (i.e., not collected from the nearby Santa Monica Mountains). It had the brown background, brown blotched pattern and the tail banding characteristic of *Crotalus viridis oreganus* from the Sierra foothills east of Fresno! Similarly colored snakes also occur in eastern Santa Barbara and Ventura Counties (on the far west side of the San Joaquin Valley) in the area of intergradation (fide Klauber, 1956) between *helleri* and *oreganus*. I had dealt with this intergrading zone before, while counting scales for Klauber as an undergraduate; and while working on some problems associated with "Operation Rattlesnake," a grant to Raymond B. Coyles in the 1950s (from Richfield Oil, now ARCO). The area of the east and west valley and the nature of species and subspecies in this area has been of interest to many. My work included: the description of *Masticophis flagellum ruddocki*, a tan, dead-grass-colored racer (Brattstrom and Warren, 1953); the forms of leopard lizards (Montanucci, 1965; 1970); and the relationship between the coloration of rattlers and of gopher snakes. I had some data on snakes from this area from the 1950s study and I compared the Morantz snake with all *C. v. helleri* and *C. v. oreganus* in the Los Angeles County Museum. On the basis of color, tail characters, etc., I concluded that it came from east of Fresno, i.e., the area where Synanon had one of its biggest paramilitary facilities. This identification was a blow to the defense argument, but on the other hand it soon became clear that Mr. Morantz knew about subspecies and local variation in *C. viridis*, had collected rattlesnakes and perhaps kept them in the past. Did Mr. Morantz collect the rattlesnake himself to implicate Synanon?

Rattlesnake and Mailbox Experiments

The rattlesnake that was presumably placed in the mailbox at the home of Mr. Morantz had a total length of 48 in, 46 in without the head; a circumference of 6.5 in (1219 mm, 1168 mm and 165 mm respectively); was estimated to be 6 to 10 years old (Findlay Russell, pretrial hearing); and weighed 9 to 12 pounds. The circumference of the snake was not as critical as the lawyers feared, since most rattlesnakes can flatten themselves by expelling air from the lungs and air sac and lowering the ribs (Brattstrom, 1959). When I examined the snake it had no visible scars, but the rattle consisted of two segments as if the rest of the rattle had either been pulled or had fallen off. There was much pretrial argument as to which had happened; Dr. Russell suspected it had been pulled off, but said that falling off was common in the wild. Two rattles might not make much noise, but there would be some if the second rattle were loose, as it appeared to be.

In the media descriptions of the case, the mailbox was portrayed as one of the box-shaped rural mailboxes placed on posts and seen along roads in rural and suburban communities. However, Mr. Morantz's mailbox was built into the house wall and had a drop chute on the outside and another slot on the inside of the house (Figures 1 and 2). Both sides had hinged doors over them. Both could be lifted for access and the inner one was grated so that one could see if there were mail inside the chute. The outer opening was 2.75 in by 7.75 in (69.9 mm × 197 mm); the inner, lower opening was 4.75 in by 7.75 in (121 mm × 197 mm); the two openings were about 18 in (457 mm) apart; and the interior opening was 32 in (813 mm) from the floor. The chute was lined with metal (Figures 2 and 4). Synanon provided me with an exact copy of the mailbox and adjacent walls; all covered with white paper, as in Mr. Morantz's house.

Experiments were done on July 5, 9 and 10, 1979, in a bare open room in the science building, California State University, Fullerton. They were done mostly by my graduate students (who were paid). Data on all the snakes were tallied and photographs were taken. Later experiments were done in the same room on March 6, 1980, for video documentation. The experimenter watched from a point 5 m to the left, 0.5 m to the front, and 1 m above the interior opening. The July experiments were done between 1200 and 1600 hrs. The temperatures of the room, mailbox area, and the snakes were 23 ± 1°C. These temperatures were close to the air temperatures in Pacific Palisades, California, area on Oct. 10, 1978, between 1200 and 2000 hrs, i.e., 20°C to 24°C (South Coast Air Quality Management District data, based at the Los Angeles International Airport, in the same climatic zone as Pacific Palisades). Three *Crotalus viridis helleri* (84, 89 and 100 cm length, not counting rattles), one *C. ruber* (TL: 122 cm), and two *C. atrox* (TL: 120 and 123 cm). Thus, the snakes were the same size, or slightly smaller, than the *C. v. oreganus* found at Mr. Morantz's house.

The snakes were placed in the mailbox through the upper, outside opening, using snake sticks. This usually required two people. The amount of time required and the difficulty in introducing the snake as well as the number of strikes were recorded. The usual procedure, and by far the easiest, was to introduce the snake tail first. The behavior of the snake was recorded until the snake left the slot on its own volition. In the March experiments we tried a variety of experiments with the same snakes, but with the snakes at chilled or at higher than their preferred temperatures. We anesthetized some snakes and put the snakes in snake sacks and manila envelopes and dropped them into the slot to see if this was easier. We put them in by hand, tail first or head first (the latter is not recommended), all in an attempt to cover as many scenarios as possible, consistent with the activity of the man observed at Mr. Morantz's door, the temperature of the day, and the time constraints. None of the results of the March 1980 experiments differed from those done in July 1979, except that a person from Synanon videotaped the event.

Results of Snake and Mailbox Experiments

In no way could we get any snake into the mailbox slot completely, under any condition, in under the alleged seven seconds (Tables 1 and 2). Placing the snake in the box was difficult, more so for large snakes and even more so for drugged or cold snakes. The average time was 3.5 min (range 1–10 min). One *C. atrox* refused to go into the box, pushed its body against the back opening of the top slot and lunged outward at an angle from almost horizontal to slightly downward, 0.5–1 m toward the experimenter, who fortunately jumped backward, while another graduate student and I captured the snake (Table 1). A *C. viridis* tried to exit from the top of the box.

The maximum time a snake stayed in the mailbox was 62 minutes (Table 2), the minimum less than 5 seconds (mean 19.8 min). In all cases, once the snake was in the box, the snake went to the lower exit, began exploratory behavior, stayed in the box for a time, then exited. The *C. viridis* #2, mentioned above, was pushed back into the mail slot and then conformed to the behavior of the other snakes. In two cases, because of their weight, snakes fell through the slot and out the lower opening by displacing the inner, lower door (#4 and #6, Table 2); both of these animals were large, but about the same size as the snake found at Mr. Morantz's house. In all cases, parts of the snake were exposed for at least some of the time before their exit (Figure 4, Table 2). Only the smallest snakes (#1, #2, and #3) were able to sit within the box without displacing the lower door, or without body parts being obvious outside the box (Figure 4). In the July experiments two animals were exposed completely, two exposed 61–66% of the time, and two fell through immediately. In two cases (#1 and #5) the snake, apparently investigating its surroundings, emerged, head first, a number of times, each time a little farther, until a final exit was made. The overlapping, backward pointing scales of the snake seemed to hinder the withdrawal of the snake back into the lower slot, since the hinged door lay on the snake's back.

None of the data from the experiments were consistent with the facts of the case: the short time (7 s) the suspect was at the door of Mr. Morantz's house; the time of day the suspect was seen at the door (1200–1400 h); and the arrival of Mr. Morantz at home (1730–1745 h), a difference of 3.5–5.5 hours. Observations of the snakes in the experiments are also inconsistent with Mr. Morantz's description of the angle of attack of the snake or that the snake was unseen in the mailbox. Mr. Morantz's two dogs were in the house and their effect on the snake is unknown. I did not use any dogs in my experiments. The witness, Mrs. Ditmars (isn't that a great name for a person in such a case?), remembers or sort of remembers (pretrial testimony is vague) the dogs barking when the suspect came near the door, and Mr. Morantz notes that the dogs jumped about when he entered and he let them out into the front yard for their evening's romp about the block.

I wrote up the results of the snakes and mailbox study in a scientific-style report for the defense. Apparently the District Attorney's office got the results of our study, perhaps through the legal discovery process.

Table 1. Time required to introduce rattlesnakes into the mailbox, July 1979.

#	Species	Time to introduce (min)	# of strikes	# of experimenters required
1	*C. viridis helleri*	4.0	0	2 mild difficulty
2	*C. viridis helleri*	1.0	2	2 tried to exit from top of box
3	*C. viridis helleri*	4.0	5	1 very difficult
4	*C. ruber ruber*	2.5	0	2 rough
5	*C. atrox*	1.0	0	2 very difficult
6	*C. atrox*	8.5	0	2 never again

Table 2. Data for snakes used in July 1979 experiments.

#	Species	Length (cm)*	Weight (lbs)	# of head appearances	Total time in mailbox**	Total time obvious***
1	*C. viridis helleri*	84	1.1	6	15 min	9.9 min
2	*C. viridis helleri*	89	1.2	2	28 min	17 min
3	*C. viridis helleri*	100	1.2	1	14 min	14 min
4	*C. ruber ruber*	122	2.6	1	<5 sec	NA
5	*C. atrox*	120	2.7	7	62 min	62 min
6	*C. atrox*	123	2.8	1	<5 sec	NA

* Total length, snout to end of tail, exclusive of rattles
** Total amount of time spent in mailbox, until snake left
*** Total time part of the body was obvious, i.e., tail hanging from inside box
NA = Not applicable as the snake dropped out immediately

The trial was to start on July 15, 1980. By this time Synanon had spent a great deal of money on the case and would have to spend close to $1 million to defend the case. The prosecution knew it would cost about the same to prosecute and that their case was poor, especially knowing the results of our experiments. Also, Synanon was getting bad media coverage about its paramilitary and cult activities. What went on behind closed doors is not known. The case never went to trial; instead the three people charged pleaded nolo contendere on July 15, just before the start of the trial. Mr. Dederich, who had come from Arizona, arrived in court in a wheelchair, and in reported poor health. He was ordered to give up all leadership and any other role with Synanon. In return, he was placed on probation. He returned to Arizona and died a few months later. Mr. Kenton (age 22) and Mr. Musico (age 30) pleaded guilty to assault with a deadly weapon and were each given two years in jail, to occur after a 90-day psychiatric observation and exam. I do not know the results of that exam or its effect on their sentence. Paul Morantz still practices law in the Los Angeles area.

Some Speculations and Questions

As a result of my studies and observations, it became clear that:

1. There was a great deal of media-hype occurring with this case; most of it directed against Synanon and the snake.

2. Rattlesnakes, or at least this one, are not a deadly weapon (Russell testimony; death 10% of the time with no treatment, 5% of the time with treatment).

3. Rattlesnakes are difficult to put into mailboxes.

4. Rattlesnakes come out of mailboxes quickly.

5. Even though our mailbox experiments were never used in the trial, because there was no trial, their presence and the results apparently played an important role in the prosecutor's decision to negotiate a settlement.

So did Synanon members conspire to kill or scare Mr. Morantz? Did Mrs. Ditmar fail to see any other people at Mr. Morantz's door? Did Mr. Morantz inflict the bite, himself, in order to implicate Synanon? He knew that rattlesnake venom was not usually deadly, and that treatment could solve most problems. Recall that the intake M.D. reports three fang marks! Did he put one fang in, panic, stop, and then do it again correctly? Testimony clearly indicates his extreme dislike for Synanon. Was he mad enough to do all this? The presence of the dogs, his observations about the snake, and our study are not consistent with the only witness, who describes a man coming to the front door, about noon, perhaps putting something into the mailbox, and spending no more than seven seconds at the front door!

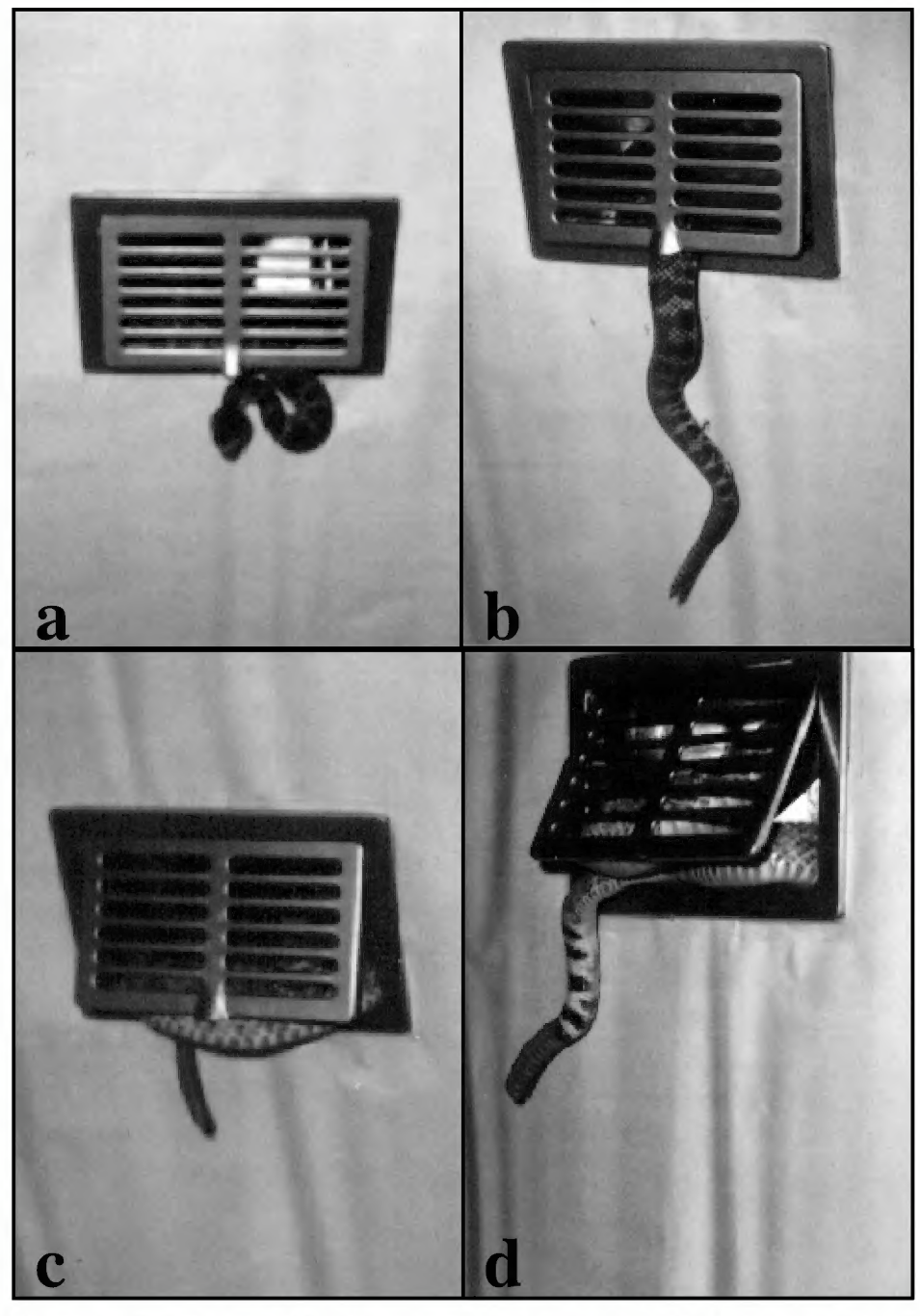

Figure 4. Photographs of several snakes in partial emergence from inside mail door in July experiments; **a** and **b** are *Crotalus viridis helleri*, **c** and **d** are *C. atrox*.

Acknowledgments

I wish to thank my graduate students, Mick Bondello, Tony Huntley, Mark Fisher, and Mike Banks, for conducting the experiments and Dr. J. Wright and R. Bezy of the Los Angeles County Museum of Natural History for the opportunity to examine specimens.

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Bull. Chicago Herp. Soc. 33(10):212-214, 1998

Overcrowding Effects on Larval Red-eyed Treefrogs (*Agalychnis callidryas*)

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Abstract

Three clutches of eggs from wild-caught *Agalychnis callidryas* were laid on 1 June 1996 from which 33 eggs successfully hatched on 7 June 1996 at the Cincinnati Zoo and Botanical Garden. Larvae were separated and raised under controlled conditions in three containers, each differing in tadpole density (five, ten or 18 tadpoles). Although this experiment was limited to a small sample size with an unreplicated design, it suggested tadpoles that develop earliest are smaller than those that develop later. This pattern was most apparent when tadpoles were raised in higher densities. Differences in metamorphic rate, SVL, and mass were statistically insignificant among the different densities. More in-depth experiments would be useful to further evaluate the results of this study on the response of larval *A. callidryas* to crowded conditions.

Introduction

Many ecological factors influence the complex process of anuran metamorphosis, including the amount of space available to tadpoles and the degree of overcrowding during development (Rugh, 1934). These factors may have profound effects on a tadpole's growth processes (Rugh, 1934; Lynn and Edelman, 1936; Richards, 1958; Licht, 1967; Wilbur, 1977; Newman, 1994). For example, Lynn and Edelman (1936) showed that tadpoles of *Rana sylvatica* grow fastest and metamorphose earliest in least crowded conditions and vice versa in more crowded conditions. These substantial physiological effects are thought to be mediated by an alga-like cell in the feces of anuran tadpoles (Richards, 1958; Licht, 1967). Different growth patterns have been found in *Scaphiopus holbrookii* tadpoles (Semlitsch and Caldwell, 1982: cited in Duellman and Trueb [1986]). Tadpoles raised at high densities metamorphosed at a faster rate and emerged at the minimum size possible to escape from density stress. In turn, this relieved smaller tadpoles of density stress, which then increased their growth rates and size at metamorphosis.

Egg masses of the Neotropical hylid, *Agalychnis callidryas*, are laid on leaves that overhang permanent or temporary pools of water. Within one to two weeks, tadpoles break free of the gelatinous mass of the clutch and drop to the pool below. Females typically lay three or four clutches with about 51 eggs per clutch in a single night (Pyburn, 1963). This reproductive pattern suggests that temporary pools may become crowded with hundreds of tadpoles. Consequently, *A. callidryas* makes an interesting subject to investigate the response of tadpoles to rearing density.

To my knowledge, there has never been a study of the effects of rearing density on tadpoles of *A. callidryas*, or of any other Neotropical anuran. I conducted a limited experiment to investigate differences in developmental rates and size upon emergence among tadpoles raised at different densities. The main goal was to gain insight into how crowding influenced larval development of *A. callidryas* to provide better understanding of the ecology of this species.

Materials and Methods

Three egg clutches with a total of 84 eggs were produced by a single pair of *Agalychnis callidryas* on 1 June 1996 at the Cincinnati Zoo and Botanical Garden. A total of 33 tadpoles hatched on 7 June 1996. Eggs were raised according to the methods of Cover et al. (1994). Tadpoles were separated into three containers or treatments holding 26.5 liters (7 gallons) of water each, and raised at different densities to compare growth rates, snout–vent length (SVL) and mass at emergence. Treatment one contained five tadpoles, treatment two contained ten tadpoles, and treatment three contained 18 tadpoles. Water temperature was kept at a constant 28°C throughout the experiment. Treatments were kept under Vita-Lites® and black lights. Lights were kept on sensors to correspond with natural sunlight cycles. Tadpoles were fed a variety of food, including boiled greens and fish flake food. Equal amounts of food per individual were weighed out and placed into the tadpole containers.

Ammonia and nitrite levels and pH were checked periodically. When needed, water changes were given to each treatment. Sponge filters were added to each treatment on 22 June 1996 in order to keep ammonia levels down. The last water test was taken on 5 July 1996, and the filters appeared to be cycling properly.

Rear leg buds were first noticeable on 24 June 1996. When front limbs started to become apparent, individual tadpoles were transferred to a 2.5-gallon aquarium which contained gravel, cork bark, and *Philodendron* spp. plants for the froglets to pull themselves out of the water. After individual tadpoles were transferred to the 2.5-gallon aquaria, they were no longer fed until after they emerged. SVL and mass were measured for each froglet on the day of its emergence from the water.

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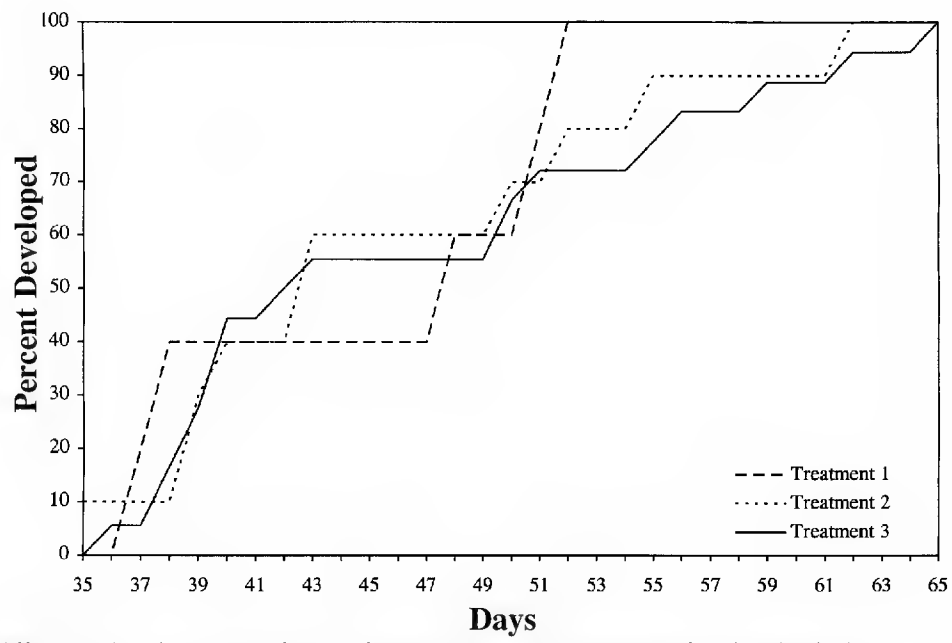

Figure 1. A comparison of the developmental rate in *Agalychnis callidryas* among treatments.

Analysis of variance (ANOVA) was used to determine if metamorphic rate, SVL, and mass were significantly different among density treatments.

Results

On day 42, 40% of the tadpoles were developed in treatments one and two (the lower density treatments), while 50% were already developed in treatment three. However, by day 52, 100% of the tadpoles were already developed in treatment one, 80% were developed in treatment two, and only 72% were developed in treatment three. This result suggests that the tadpoles initially developed faster in crowded conditions, and then slowed down when density decreased. Figure 1 compares the developmental rate of the tadpoles in all treatments.

There was no mortality in any treatment. All tadpoles (N = 33) completed metamorphosis by 65 days after hatching, with a mean rate of 46.3 days (SD=8.57, range 35–65 days). The rate of development varied inversely with rearing density such that tadpoles metamorphosed fasted in treatment one, slower in treatment two, and slowest in treatment three (Table 1). The standard deviations showed that most variability in developmental rate was in treatment three (Table 1). Analysis of variance indicated that differences in metamorphic rates were not statistically significant among treatments (F=0.0875, P=0.9164).

Like developmental rate, SVL of froglets varied inversely with rearing density such that longer froglets were produced at lower densities (Table 1). However, body mass of froglets at metamorphosis did not vary systematically with rearing density of the tadpoles. The heaviest individuals were produced in the intermediate rearing density of treatment two (Table 1). As with developmental rate, standard deviations once again showed that most variability in body size occurred in treatment three. Analysis of variance indicated, though, that differences in SVL and mass were not statistically significant among treatments (F_{SVL}=1.0310, P=0.3690; F_{mass}=0.7529, P=0.4797).

Water quality tests were taken three times throughout the experiment. Differences in ammonia and nitrite levels varied between treatment and between the times they were taken.

Table 1. Comparison among treatments. Days = # of days required for tadpoles to fully metamorphose; SVL = snout-vent length of newly emerged froglets; Mass = mass of newly emerged froglets; N = # of larvae in the treatment. The table entries under Days, SVL and Mass are in the form of mean ± standard deviation, with the range shown below in parentheses.

Treatment	Days	SVL (cm)	Mass (g)
1 (N = 5)	45.2 ± 7.19 (37–52)	2.01 ± 0.13 (1.86–2.20)	0.73 ± 0.15 (0.58–0.94)
2 (N = 10)	45.8 ± 8.57 (35–62)	1.99 ± 0.12 (1.80–2.20)	0.76 ± 0.14 (0.61–0.99)
3 (N = 18)	46.8 ± 9.30 (36–65)	1.92 ± 0.17 (1.70–2.24)	0.69 ± 0.17 (0.45–1.08)
All (N = 33)	46.3 ± 8.57 (35–65)	1.95 ± 0.15 (1.70–2.24)	0.72 ± 0.16 (0.45–1.08)

Table 2 summarizes the water test readings for each time they were taken.

Discussion

This preliminary experiment was helpful in gaining an understanding of crowding effects on *Agalychnis callidryas* tadpoles. Differences between metamorphic rate, SVL, and mass among treatments were statistically insignificant. Still, crowded tadpoles appeared to develop fastest early on and then the rate of development decreased. Upon emergence, frog mass and SVL varied considerably, although the earliest froglets to develop were smaller in mass and SVL compared to body size of the latest. Variation in body size was most extensive in treatment three (i.e., at the highest density).

Competition for food was most noticeable in treatment three. Overcrowding tended to cause a higher amount of feces

Table 2. Summary of the water quality tests taken throughout the experiment.

Date of test Treatment	Ammonia (ppm)	Nitrite (ppm)	pH
14 June			
Treatment 1	4+	–	8.2
Treatment 2	4+	–	8.2
Treatment 3	4+	–	8.3
29 June			
Treatment 1	1	0	8.4
Treatment 2	0.75	0.4	8.3
Treatment 3	1	0.5	8.4
5 July			
Treatment 1	1.5	2.5	–
Treatment 2	0.25	4+	–
Treatment 3	0	4+	–

and competition, both of which are known to inhibit growth rate in tadpoles (Rugh, 1934). It was expected that ammonia levels would increase most in treatment three because of the high amount of feces. However, ammonia levels remained close to constant among the three treatments after the filters were added.

A. callidryas tadpoles appear to have a similar physiological response to crowded conditions as *Scaphiopus holbrookii* tadpoles (Semlitsch and Caldwell, 1982: cited in Duellman and Trueb, 1986). Tadpoles develop at fast rates and emerge from the water at a small size in crowded conditions, possible to escape from density stress. Consistent with this idea, once the smaller tadpoles were relieved from high densities they continued growing and emerged at larger sizes.

It should be pointed out that this was a limited experiment with a small sample size. More in-depth studies need to be conducted to gain better understanding of how larval *A. callidryas* respond to crowded conditions.

Acknowledgments

I wish to express my thanks to Robin Saunders and Kevin Zippel for their help and suggestions throughout the project. Thanks to Dr. Fredric Janzen and Jason Kolbe for their suggestions and comments on the manuscript. I would also like to thank everyone at the Cincinnati Zoo and Botanical Garden for their support.

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Bull. Chicago Herp. Soc. 33(10):215-216, 1998

Book Review: *A Field Guide to Reptiles and Amphibians of Eastern and Central North America, Third Edition, Expanded* by Roger Conant and Joseph T. Collins. 1998. xviii + 616 pp. Houghton Mifflin Company. ISBN 0-395-90452-8. Softbound. $20.00

[Available to CHS members from Zoo Book Sales for $16.00]

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The expanded third edition of this popular field guide is being touted as a "must-have" and for some herpetologists, such a recommendation is valid. But all book buyers should be aware that the authors themselves refer to it as an EXPANDED rather than a REVISED edition. Except with regard to an explanation of new provincial nomenclature in northern Canada in the Introduction and some mostly grim updates about habitat destruction in the same section, there is very little new material in this work other than the inclusion of accounts of a handful of introduced exotic lizards. While the new plates and line drawings by Tom R. Johnson are excellent, as are the scattered photographs by a number of contributors, these enhancements are less than would be expected.

It may seem presumptuous or at least strange for a native Californian and virtual lifetime resident of the Golden State to tackle the review of a popular field guide whose geographical limit extends no closer to home than the Rocky Mountains. More daring perhaps is my restricted focus, limited to the turtle section of the new edition. I feel that a finely detailed review of textwide updates, or lack thereof, would be as annoyingly long-winded as a cursory review of the generally satisfactory contents would be bland, hollow praise.

To skeptics, I have been familiar with the turtle fauna of the Eastern seaboard firsthand since having stumbled upon three eastern box turtles near Media, Pennsylvania, in 1961 when I was barely a teenager. It was during that stay outside Philadelphia that I actually met the senior author of this field guide. Countless one- to three-week vacations taken between April and November since the late 1960s have focused on observing and photographing the regional turtle fauna and other herps of 16 eastern, southern and central states, often in the company of homegrown experts. I have faithfully carried a contemporary edition of the Peterson Field Guide on virtually all of these trips. I shall probably always wish to have this handy, concise reference in my possession for such excursions as long as I am able to make them. However, with regard to the third edition, I wonder why the authors skimped so on the turtle section, limiting new information instead to the identification of established exotic species of other herps and drawings of certain larval amphibians. No new information on chelonians is contained in the 1998 edition. The most convenient justification for this "expanded" edition seems to be that most readers' copies of the 1991 edition have by now become a bit dog-eared, as has mine.

The new edition is not without its welcome modifications, however. Page numbers are more accessible, at the bottom of the page rather than the top and are shown in white, surrounded by a small black rectangle. The stunning color photos (including eight in the turtle section, most of them by Suzanne L. Collins) augment the excellent new illustrations by Tom R. Johnson as well as the familiar, impeccable color plates by the late Isabelle Hunt Conant. The plates themselves are grouped near the front, an improvement over the more awkward earlier placement in the middle of the book. By placing the range maps with the corresponding species accounts, and always near the top of the page, the editors will add to the life of this edition by not obliging the reader to thumb back and forth quite so much. A disadvantage of the new, colored maps is that most are much smaller than those of the 1991 edition.

The accounts of only three turtle species will be the yardsticks with which I measure the achievements of the new edition over the old. These three species are among those with which I have familiarity in the field. More importantly, I am reasonably up to date in the current literature on these chelonians and am well acquainted with experts who have logged hundreds of hours in field observations. The geographical distribution of at least three other turtle taxa as presented in the 1998 edition is probably inaccurate, in two cases owing to significant localized extinctions (*Kinosternon s. subrubrum* in northern Indiana, *Graptemys caglei* in the San Antonio River), and to range expansion in the other (*Trachemys scripta elegans* in southern Michigan). But only three examples will be discussed below.

The first turtle selected is the alligator snapping turtle, *Macroclemys temminckii*. Except for a good photo of an adult specimen, and the brightly colored but unmodified range map accompanying the species account, the text is identical verbatim to that of the 1991 edition. Ominously absent from the References section is Peter Pritchard's admittedly controversial 1989 work, *The Alligator Snapping Turtle, Biology and Conservation*. Had Conant and/or Collins familiarized themselves with this work, the new account might have expressed the woefully inevitable conclusion, spread out over several pages in Pritchard's work, that the alligator snapping turtle is hovering near extinction in Louisiana, and probably elsewhere, owing to excessive commercial exploitation. Arguably, reference to the de facto threatened status of this huge turtle in much of its range ought to have been mentioned in the 1991 edition. Perhaps RC and JTC are aware of the severely negative anthropogenic impacts on this species, the world's largest freshwater turtle by weight, but choose to remain silent rather than raise a troublesome political issue. However, in both the 1991 and 1998 editions the authors declare, with regard to the Texas horned lizard, that it "apparently has disappeared from much of its former range in Texas."

The second example I have chosen is the account of the Alabama map turtle, *Graptemys pulchra*. It was immediately evident that the authors have chosen to ignore the descriptions of the Escambia map turtle, *G. ernsti* Lovich and McCoy 1992, and of the Pascagoula map turtle, *G. gibbonsi* Lovich and McCoy 1992. Although Lovich is cited in the Acknowledgments, the References section does not include *Turtles of the United States and Canada* by Ernst, Lovich and Barbour (1994). However, the 1972 work by Ernst and Barbour is cited (incorrectly as 1973). That RC and JTC have overlooked the description of two full species of North American turtles is lamentable; even if they do not accept these (definitely placing themselves in a minority position), at the very least they ought to mention these distinctive "populations" of the Alabama map turtle. JTC's record on thoroughness vis-à-vis chelonians is somewhat patchy: In his attractive 1981 book *Turtles in Kansas*, he and senior author Janalee P. Caldwell completely overlook the presence of the Missouri cooter, *Pseudemys concinna hieroglyphica*, in the Prairie State (Turtle Power 11[2]:1, book review by Bill Link, March 1982). That species' unquestioned presence in the southeastern portion of Kansas is confirmed in every other regional work since Carr's 1952 *Handbook of Turtles*, including all three editions of the Peterson Field Guide on eastern and central U.S. reptiles and amphibians.

My final comment involves the eastern box turtle, *Terrapene carolina*, and may indeed sound like hairsplitting to some readers. With regard to the northeastern limit of the nominate subspecies, both the second and third editions exclude coastal Maine and New Hampshire. Ernst, Lovich and Barbour (1994) do not, and there are unpublished reports of its presence in southern Vermont as well. The species may be rare on the northeastern periphery of its range but to make no mention of its occurrence in two states is an oversight. Regarding the distribution of the Florida box turtle, *T. c. bauri*, all three editions have given, "Fla. peninsula and some of the Keys" (p. 162, 1998 edition). However, sharp-eyed readers scrutinizing the map will see the extreme southeastern corner of Georgia included for *T. c. bauri* in the range maps of both the second and third edition. The reader may wonder whether this redrawn line is due to error; if not, why is the text not modified to include southeastern Georgia? In response, I can aver that the state of Georgia lists the Florida box turtle as a protected species, voucher specimens reportedly exist in the Savannah Science Museum, and I have found and photographed specimens of "pure" *T. c. bauri* between the Okefenokee Swamp and St. Marys, Georgia. Regrettably, two identical copies of a polite letter on this matter, the second enclosing a SASE and both containing color slides, which I first mailed to a biologist at the Savannah Science Museum in 1989 have neither been answered nor acknowledged to date.

There is little doubt that the newest edition of the Peterson Field Guide to eastern and central North American herps will be eagerly purchased by neophyte herpetologists and by older hobbyists and academics alike, in need of replacing their worn-out 1991 editions. And by and large, the first-time owners of this book will have made a wise choice. However, the authors have revealed themselves to be less than thoroughgoing with regard to current literature on U.S. chelonians. One cannot help but wonder if the presses ought to have been stopped to give the authors one last look around before repackaging old information with new window dressing.

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Bull. Chicago Herp. Soc. 33(10):217-219, 1998

HerPET-POURRI

by Ellin Beltz

Eyewitness account of DNR raid

Mike Wood: "Dear Ellin, In the August CHS *Bulletin*, there was a story about the DNR raid at the Midwest Reptile Show, June 28, "Laws, lies and videotape." I have enclosed a copy from the Hoosier Herpetological Society *Monitor* that provides a different viewpoint. I was there June 28 as a customer. The Indiana Department of Natural Resources and the Indianapolis City Police Department should be ashamed of the manner in which innocent citizens were treated that day. "[We were] herded out in the sun for over an hour in 94-degree weather. A lady passed out. I tried to inform the Police a lady was down, I was told to 'shut up' or I would go to jail! A true motto of 'to serve and protect.' Many herps died of heat exposure. Lawsuits are pending regarding this raid. . . ." The enclosed article by Ed Ferrer reads in part: "The 'media circus' put on by news reporters of the local TV stations did little to inform the public with their sensationalized accounts of the raid. They took all sorts of video shots and gave the uninformed casual viewer the impression that any of the animals shown could have been illegal. Most of the animals shown were completely legal. If their intent was to discredit the Midwest Reptile Show and herpetology hobbyists in general, I think that was accomplished." For more information, see the HHS web site <http://members.iquest.net/~hhs> or e-mail them at <hhs@iquest.net>.

Eco-mess fouls fen

In late August, the U.S. Environmental Protection Agency stopped construction of a 455-mile crude oil pipeline, planned to go from Superior, Wisconsin, to Chicago because the drillers leaked drilling mud below an environmentally sensitive fen and damaged endangered plants known to occur there. Bentonite is the drilling business name for a mixture of gypsum and silica. (Mineralogical Bentonite is a clay derived from volcanic ash.) Regardless of manufactured or natural, it is used as a drilling lubricant and is affectionately known as "mud" to drillers. A company official with Lakehead Pipeline Company said, "We were aware that the mud could find a fracture and burp up to the surface, which it did in the fen." The mud covered a 10,000-square-foot area and smothered three sensitive and restricted plant species including yellow monkey flowers. The company cleaned up the mess and planned to reroute the pipeline 50 feet deeper, which would clear the river by 100 feet. But the USEPA wants to see a plan to minimize leaks and damages before construction resumes. [*ENR* Engineering newsletter, September 14, 1998] To see why this is so potentially damaging, look for the town of Sandwich in the lowest southeast corner of De Kalb County. Lakehead encountered a crack while drilling 50 feet under the Fox River approximately between Millhurst and Millbrook, nearly due southeast of Sandwich. Now lay a straightedge between Sandwich and Kankakee River State Park. That is the line of the Sandwich Fault, an ancient and apparently inactive structure which underlies some of the most rapidly populating areas in the state. It crosses the Illinois River in Channahon and is exposed in a quarry. [Illinois State Geological Survey Publications] Is it possible that the drillers encountered a crack associated with this feature? You can see the kinds of bedrock cracks they might have pierced by visiting Kankakee State Park and walking along Rock Creek. The fault is exposed along the creek about 100 feet north of the bridge on the west cliff. This is one of those textbook engineering problems that should be taught over and over again in school. Out west everybody knows that there's rocks down there and that rocks have groundwater in them and that faults act like pipes to bring groundwater to the surface or contaminants to the groundwater. There is no excuse in Illinois for subsurface drilling (or issuing permits for same) without a full review of geological conditions by an experienced Illinois geologist and a requirement that all subsurface drilling be monitored by a knowledgeable mudlogger or graduate student. As sorry as I feel for anyone involved in a federal lawsuit, USEPA is to be applauded for asking for more studies before drilling resumes. If it does.

Endangered species in the news

- Officials doing a routine check on a plane at the Douglas, Arizona airport were surprised to find 15 wriggling socks with Gila monsters inside a secret compartment below the floor of the cabin. Two U.S. citizens were being held and a variety of federal charges may be filed against them. [Tempe, Arizona *Tribune*, August 8, 1998 from Tom Taylor]

- Jerry Sullivan: "Opponents of the protections provided by endangered species laws are given to loud guffaws or apoplectic outrage when species that are unlikely to show up on heraldic shields are given protection. Their belief seems to be that endangered species laws are like the legal protections given landmark buildings. The criteria should be primarily aesthetic. If an animal is not beautiful or large or stately or otherwise imposing, it should not be on the list. It is obvious that these people were not paying attention during Biology 101. . . ." Jerry points out that the Illinois Endangered Species Protection Board has proposed four species be changed from state-threatened to endangered status: the alligator snapping turtle now limited to one state locality, the coachwhip, and two birds. [*Chicago Reader*, August 14, 1998, from Ray Boldt]

- Wildfires which raged across part of the state of Florida this year may actually benefit native wildlife. Endangered indigo snakes and gopher tortoises survived in their underground burrows, while nearly a half a billion dollars of human property was lost. [*Arkansas Democrat and Gazette*, July 12, 1998, from Bill Burnett]

- The names of three alleged international wildlife smugglers were published on June 16, 1998. Those who want to read the entire story are referred to the internet. Search for the Tempe, Arizona, *Tribune* [from Tom Taylor] and the *Washington Post* [from Kathy Bricker]. I'll let you know when and if the convictions happen. I'm lewinskied out and tired of vicarious media thrills. How about you?

- A Metarie, Louisiana, man was arrested for "trawling Lake Ponchartrain with his [turtle excluder] device sewn shut—and with a sea turtle in his trawl," according to the New Orleans

Times-Picayune. A spokesman for National Marine Fisheries Service said that it's pretty rare for enforcement officials to find turtles in the trawl nets and added, "But this guy had the whole nine yards: a TED sewn shut with a turtle in it, and it was a Kemp's ridley, the rarest of the rare sea turtles." Coast Guard officers boarded 2,050 boats along the Gulf shore and found only 23 violations. Some feel the real number of violators may be higher, noting that many shrimpers use CB radios. [July 14, 1998, from Ernie Liner]

• Kemp's ridleys have been observed nesting on a Volusia County [Florida] beach. Remember that this is the same county that has been taken to court by a few brave citizens to change county ordinances on lighting and beach driving and changed all its policies in May. Only 17 of 47 beach miles may be driven on and the lighting will be changed or repaired. [Orlando, Florida *Sentinel*, May 1, 1998, from Bill Burnett] The Volusia nest is only the fifth record for nesting by this species in Florida. Surprisingly, two reports of Kemp's ridley nests have been reported from Georgia and other sea turtles have nested farther north than usual. Warmer ocean temperatures which are considered to be a "fluke" or a result of El Niño seem to be responsible for the northerly shift of nesting sea turtles. [Orlando, Florida *Sentinel*, June 11, 1998, from Bill Burnett] According to Carole Allen's memorable address to the CHS, males hover offshore at the Mexican nesting beaches while the females lay the eggs. This would mean that both males and females are responding to temperature changes.

• Juxtaposed with an article which describes the sorry tale of dead sea turtles washed up and rotting on Virginia beaches is an article headlined "Minnesota maker recalls cereal tied to salmonella." The carcasses can't be moved by local homeowners because they are endangered species and nobody knows how the salmonella got into the cereal which was distributed through 12 states and caused an unusual strain of the bacteria to show up in hospital admits. [*Chicago Tribune*, June 6, 1998, from Ray Boldt] Welcome to life at the edge of the new millennium. Read John Brunner's *The Sheep Look Up* for an interesting spin on the creation of multicontinental mega- and meiofauna.

Ruling cuts both ways

California Superior Court Judge Carlos Bea ruled on the animal activist versus San Francisco Chinese food merchant case. For now, the merchants can continue to sell live food. The judge wrote, "The adoption of such standards may be urged to the Legislature, but not to this court, which must apply existing laws and cannot adopt new laws." With reference to Chinese traditional food and medicine practices which had been cited as a mitigating factor by the merchants, Bea ruled, "This 'culture' argument is not only irrelevant, it is bothersome and it is rejected. The laws that apply here are Californian, not Chinese." [*Contra Costa Times*, July 23, 1998, from K&W Herp Haven]

Put that baby on the line!

The Sunday Telegraph reports that Britain's tortoise breeders are facing a new regulatory dilemma. The E.C. passed two regulations that require all adult breeding tortoises to be implanted with a microchip and all offspring be provided with a chip, even though they cannot be installed in the babies until they are three years old. The idea is to stamp out smuggling, although malefactors have apparently found ways around the regs already. One Surrey breeder described the plan as unworkable, saying "if only every politician and official responsible for this law could have a mobile telephone inserted up their [anatomical part], they might realize just how idiotic their legislation is." [August 2, 1998, from David Blatchford]

Call on Timothy

The oldest known tortoise in Britain was born around 1850, served on various HMS boats and in two wars before retiring to a home in Devon, then a castle at Powderham where it was found that he was a she, but still wouldn't mate. In 1940, Timothy moved his digs to under the castle's front steps—an apparent response to German bombardment—and moved out to the wisteria bed after armistice. For the last 40 years, Timothy's awakening from hibernation has been one of the rituals of blustery and chill Britain. The dates are published in the newspapers and visitors to the castle are welcome to greet him, but are asked not to pick him up. Also, please do not disturb the wartime helmet to which staff refer as "Timothy's boyfriend." Call the castle for details (01-626-8902430) in the UK. [*Weekend Telegraph* by Rory Knight Bruce, May 9, 1998, from David Blatchford]

Great quotes!

• A 51-year-old alligator wrestler: "I always say that as a gator wrestler you have to have high reflexes and a low I.Q., but every time I get through a show, I know I've handled the alligator and gotten away with it, so it's very rewarding for me." [*The New York Times*, August 9, 1998, from K. S. Mierzwa]

• A 36-year-old Panama City, Florida, man was seized by an alligator in the Chipola River. After authorities killed the gator, the man said, "and I know it should have been me. I shouldn't be here. . . . I was screaming bloody murder at the gator, but to myself, you know, I was thinking, 'I'm a dead man.'" [Leesburg, Florida, *The Daily Commercial*, June 25, 1998, from Bill Burnett]

• A frog expert at Conservation International speaking about drugs from poison-dart frogs: "Our basic understanding of biodiversity is pathetic. How many chemicals are out there? We have no idea." [*Chicago Tribune*, August 30, 1998, from Lori King-Nava]

• A contaminant ecologist with the U.S. Geological Survey Patuxent Wildlife Research Center in Laurel, Maryland, speaking about a Canadian study which links exposure to a commonly used organochlorine agricultural pesticide called endosulfan: "This study give us cause for concern. . . . We know so little about the effects of pesticides on amphibians that almost anything we find in these studies is going to be new." [*Science News*, September 5, 1998, from Mark Witwer]

A real croc of a tale

For those who saw or forwarded the latest Internet press release or letter about a golfer who got eaten by an American crocodile on the seventh hole please be advised that not a single

item in that story is true. If you forwarded the letter to your dist.list, please take a minute and send a retraction!

Letters from contributors

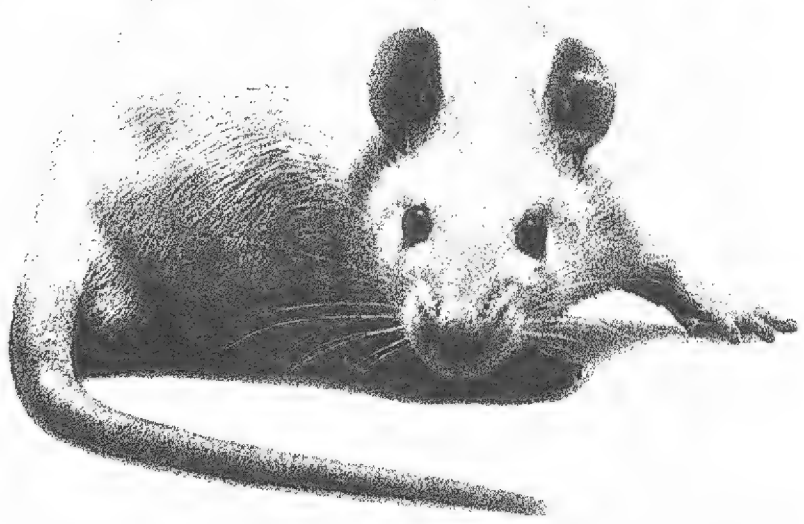
• Attached to a clipping showing a group of smiling children holding a very long, very plump snake is a note from Jim Stuart: "This isn't entirely "clip-worthy" but made me wonder if anyone in the . . . Public Schools got in trouble for this. . . . [They have] instituted a policy where students are not allowed to handle reptiles in classrooms because of *Salmonella* scares elsewhere. Have you heard of this in other public school systems?" I've wondered about this, too. For every "scary snake on loose story," there seems to be a handful of the "nine kids and a snake" photographs. How about it readers?

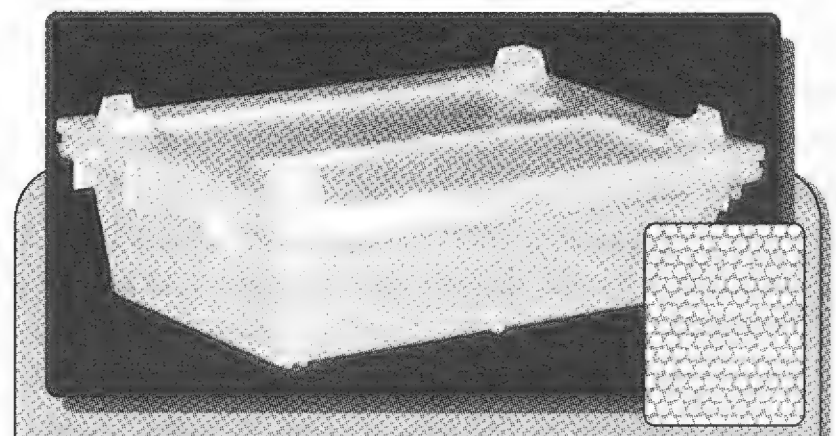
• Contributor Brian Bankowski sent a clipping from the *Toronto Sun* about the Grand Cayman Turtle Farm's plan to release thousands of headstarted turtles. He wrote: "This is where I sent you the postcard in March 98. It's quite the place ,. . . big compound and a sort of mini-zoo with a big gift shop, cafeteria. . . . Unfortunately probably all these turtles just swim off to be slaughtered in Mexico or caught in shrimpers' nets. . . . If all green plants died, the Earth would die. If all the birds and animals disappeared, the Earth would die. If all the fish and reptiles died, the Earth would perish. If man disappeared, the Earth would flourish. Go figure."

• A 36-year-old alligator, which had peacefully lived in a family's backyard pond for 25 years, was seized by authorities after the critter had escaped its enclosure and wound up in the yard of an extremely unhappy neighbor. His owner said authorities "tied him up like a big cigar" and drove him away to an empty pen at the Solana Beach, California, zoo. [*San Diego Union-Tribune*, June 6, 1998] Contributor Ray Boldt wrote, "Dear Ellin, A friend of mine from San Diego sent me this article. I took my son and his wife to the Reptile Fest. . . . They were impressed by the reptiles, but also how friendly and knowledgeable the exhibitors were. And they are looking forward to going back again next year."

Thanks to everybody who contributed and to those others who've sent me stuff that I haven't used yet! Just because I have a few things for next month *does not mean* you should not keep sending in new stuff as it appears. The easiest way is to just send the whole page of newsprint (it doesn't weigh much!) or be sure that you keep the date/publication slug firmly attached to each page. Put your name on each sheet; it's the easy way to get rid of those freebie address labels without feeling guilty! Mail to me: Ellin Beltz, 1647 N. Clybourn Avenue, Chicago, IL 60614-5507. E-mail letters only to <ebeltz@ripco.com>. As we can see above, sometimes e-letters and official looking e-press.releases need to be fact-checked before use! By the way, thanks to the contributor who sent in a clipping with a really big scrawled note apologizing for the handwriting, but saying "I've broken my wrist." Unfortunately, I can't figure out who this is! Please let me know—when you can write, of course.

Health Food for your herps!





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Herpetology 1998

In this column the editorial staff presents short abstracts of herpetological articles we have found of interest. This is not an attempt to summarize all of the research papers being published; it is an attempt to increase the reader's awareness of what herpetologists have been doing and publishing. The editor assumes full responsibility for any errors or misleading statements.

REPRODUCTION IN THE WHITE-THROATED SAVANNA MONITOR

J. A. Phillips and R. P. Millar [1998, J. Herpetology 32(3): 366-377] examined the reproductive biology of the white-throated savanna monitor lizard, *Varanus albigularis*, in the arid savanna of Etosha National Park, Namibia. Both sexes were solitary during the the hot/wet season when prey were abundant, and during the hot/dry season when prey populations were declining. Male–male and male–female behavioral interactions were confined to a 2–3 week period at the transition from the cool/dry to the hot/dry seasons when prey populations were depleted. Interactions occurred at locations occupied by estrus females. Male–male interactions were restricted to resident males chasing intruding males after visual contact. Males appeared to initially locate the general area occupied by females through scent cues. Once in visual contact with females, males exhibited a spasmodic body shudder, after which females responded by flattening their bodies. Mating generally occurred in trees. No aggression was noted between pairs during courtship or mating. At peak estrus, females had elevated (100 to 500-fold increase over non-reproductive period) plasma testosterone and total estrogen titers. Males showed similar dramatic increases in plasma testosterone levels during the mating period. Aspects of the reproductive biology of this species are discussed in the context of general patterns for the family Varanidae. As a group monitor lizards appear to be very conservative in the length of gestation, but highly variable in length of incubation. Length of incubation appears to be variably timed in order to place hatching during the period of greatest abundance of invertebrate prey.

FEEDING ECOLOGY OF A CROTALINE SNAKE IN SOUTHEAST ASIA

J. C. Daltry et al. [1998, J. Herpetology 32(2):198-205] identified 225 prey items from the stomach contents and feces of museum specimens, roadkills, and live *Calloselasma rhodostoma* collected throughout Southeast Asia. Overall, this snake was found to eat a broad range of vertebrate and invertebrate prey, but exhibited strong intraspecific variation in its diet. Ontogenetic variation was evident in all regions, typically expressed as a transition from predominantly ectothermic prey (arthropods, amphibians, and/or reptiles) to endothermic prey (mammals and birds), although the opposite trend occurred in parts of Thailand. Among snakes of similar size, significant geographic variation emerged in the proportions of different prey taxonomic classes constituting diet. Sexual variation in prey type was also detected and feeding behavior changed according to reproductive status: gravid females ceased feeding, and adult males appeared to fast during the mating season. The authors discuss possible reasons for intraspecific variation in feeding ecology.

TEMPORARY REMOVAL SAMPLING OF SALAMANDER POPULATIONS

S. Salvidio [1998, Amphibia–Reptilia 19(2):113-124] studied a rock-face population of the European plethodontid *Speleomantes strinatii* along a small Apennine stream in northwest Italy. Three temporary removal samples were taken in October, from 1993 to 1996, to estimate population structure, abundance and biomass. Body-size polymodal frequency distributions were resolved into separate components (i.e., estimated age classes) using the log-differences method. Each year's sample was composed of two juvenile age classes plus a mixed component in which large immature individuals and sexually mature salamanders were present. The analysis of removal data showed that capture probabilities were homogeneous within each annual sampling and were similar between juveniles and adults (mean values being 0.33 and 0.26, respectively). The population density varied between 0.6 and 1.0 individuals/m^2 of rock face (average 0.8) and biomass, expressed as wet weight, between 0.98 and 1.54 g/m^2 (average 1.25 g/m^2). Temporary removal sampling was effective in providing autoecological data on European plethodontid salamanders living in such relatively complex microhabitats as vertical rock faces. Moreover, the results suggest that temporary removal methods can be a useful tool in monitoring amphibian long-term population changes.

DIRECT DEVELOPMENT IN *DESMOGNATHUS AENEUS*

S. B. Marks and A. Collazo [1998, Copeia (3):637-648] describe development of the salamander *Desmognathus aeneus* (Plethodontidae: Desmognathinae) from fertilization to hatching. Embryonic development is divided into 33 stages on the basis of external morphology. Front- and hind-limb buds appear nearly simultaneously. This feature is characteristic of desmognathines, as well as direct-developing plethodontids (e.g., *Ensatina* and *Batrachoseps*). Previous workers have characterized the developmental mode of *D. aeneus* as intermediate between larval and direct development. Based on features of the embryo and hatchling, the authors contend that *D. aeneus* is a true direct developer. First, prominent endolymphatic calcium deposits are present during embryonic development, a feature thought to be correlated with direct development in salamanders and frogs. Second, *D. aeneus* shows no evidence of a desmognathine larval pigment pattern during development. Third, hatchlings have eyelids, nasolabial grooves, tiny gill stubs that disappear soon after hatching, an adult color pattern, and no tail fin. These features are characteristic of hatchlings of other direct-developing plethodontids. Fourth, the skull and hyobranchial apparatus are essentially adult in morphology. The initial characterization of *D. aeneus* as "semimetamorphosed" probably was based on hatchlings that were induced to hatch prematurely in the lab.

VALIDATION OF AN AMPHIBIAN SURVEY TECHNIQUE

L. J. Shirose et al. [1997, Herpetologica 53(3):312-320] note that amphibian call count surveys in Ontario use a common survey protocol. They evaluated the precision and accuracy of data collected by these methods. Multiple observers monitored the same routes to determine inter-observer variation. Inter-observer agreement in evaluation of calling intensity and occurrence was generally high, and the experience of the observer affected estimation of both calling intensity and the number of individuals calling. There was no significant increase in inter-observer agreement in evaluation of calling intensity or occurrence with 5-min versus 3-min surveys. Longer surveys rarely resulted in the identification of species not heard in the first 3 min. Surveys of 30–60 min duration indicated that return for effort declined sharply during the second minute of the survey, although new species were sometimes heard after as long as 15 min. Simultaneous intensive and extensive monitoring was performed on populations of Fowler's toads (*Bufo fowleri*) in southern Ontario and bullfrogs (*Rana catesbeiana*) in central Ontario to determine whether there was a relationship between calling intensity and chorus size or population size. A linear relationship was found between call counts and chorus size in both species. The authors conclude that the data generated with the call count surveys were adequately precise, but that accuracy remains to be validated. Further investigation of the relationships among population size, chorus size, calling intensity, and environmental factors are required to determine whether extensive monitoring of calling amphibians can be used as an index of actual population size. However, until that time, the authors recommend that calling amphibian surveys be used as the first part of an integrated program using extensive monitoring to identify areas where populations may be declining, and intensive monitoring to confirm or refute reports of declines.

TERRITORIALITY IN FEMALE TREE LIZARDS

L. A. Mahrt [1998, J. Herpetology 32(2):176-182] notes that few quantitative data are available on territorial behavior of female lizards. In this study, the author examined territorial establishment and maintenance behavior of a population of female tree lizards (*Urosaurus ornatus*) in southern New Mexico. The clusters of boulders that the lizards inhabit were mapped and scan sampled twice a day through the entire activity season (February–October) and the placement of each lizard noted. Mapping data suggest that the females establish and maintain territories throughout their activity season. Female territories do not overlap with their nearest female neighbor during the peak reproductive period and are always within a single dominant male's territory. Focal animal observations were also performed throughout the entire activity season to ascertain if seasonal changes in time budgets occur. Reproductive condition was noted for each female during focal observations as pre-reproductive, reproductive (gravid), and post-reproductive. The seasonal focal animal data reveal that females perform significantly more social behaviors when they are gravid. These data detail changes in female lizard behavior over a long-term territorial study.

GOPHER TORTOISE BURROWS

C. Guyer and S. M. Hermann [1997, Chelonian Cons. and Biol. 2(4):507-513] note that burrows of gopher tortoises (*Gopherus polyphemus*) are a key resource in the longleaf pine ecosystem because they also provide shelter for other animals and interrupt understory vegetation. The authors compared patterns of burrow size and longevity, as well as use rates by tortoises, at two sites: the Wade Tract, a site in Georgia with clay-based soils, old-growth trees, and a relatively undisturbed understory, and the Conecuh National Forest, a site in Alabama with sandy soils impacted by forestry management practices. The Wade Tract was dominated by large burrows that retained tortoises for longer periods of time than burrows on the Conecub National Forest. On both sites, large (width $>$ 30 cm) burrows lasted longer and were used by tortoises longer than medium (width $>$ 20 but $\leq$ 30 cm) and small (width $\leq$ 20 cm) burrows. No differences were observed between the two sites in the rates at which medium and large burrows filled with soil. Our observations suggest that: 1) ancestral forests were dominated by large, presumably old tortoises that created and remained faithful to burrows that were present for long time periods (half-life of at least 12–24 years); 2) burrow longevity is determined primarily by factors other than soil type and root structure, and 3) patterns characteristic of ancestral forests have been altered on managed forest lands where vegetation is more sparse. On managed forest lands, tortoises create burrows that, when matched for size, have similar minimum half-lives to those on areas with more vegetation. However, tortoises on these disturbed sites tend to be smaller and, therefore, create smaller burrows. These burrows and their associated aprons remain as soil disturbances for shorter periods of time and are readily abandoned, possibly as tortoises migrate to sites with better forage. Such abandoned burrows may play a role in the spread of armadillos (*Dasypus novemcinctus*) into these areas.

BODY TEMPERATURE PATTERNS IN CROCODILES

F. Seebacher and G. C. Grigg [1997, Copeia (3):549-557] determined diurnal and seasonal patterns of body temperature (T_b) in *Crocodylus johnstoni* in the wild by monitoring T_b and behavior of 15 crocodiles, as well as measuring water, air and ground temperatures, and solar radiation. Two fundamentally different diurnal patterns of T_b occurred. One (pattern A) was similar to that described as typical for thermoregulating heliothermic reptiles, in that crocodiles shuttled between basking on land and cooling in water so that T_b formed a plateau elevated above water temperature (T_w) during the day. In the other (pattern B), crocodiles did not leave the water, and T_b equalled T_w throughout the day. Some crocodiles showed either pattern A or pattern B throughout the year, and some behaved differently at different seasons. The preferred body temperature range (PBTR) of those crocodiles that thermoregulated for all or most of the year changed seasonally, paralleling seasonal changes in T_w. The midpoint of the PBTR changed from approximately 29 to 33°C, winter to summer. Intraspecific aggression prevented some crocodiles from thermoregulating effectively, and their PBTR was significantly lower when experiencing aggression from other crocodiles.

A NEW *LEPTOTYPHLOPS* FROM THE IVORY COAST

V. Wallach and D. E. Hahn [1997, African J. Herpetology 46(2):103-109] describe *Leptotyphlops broadleyi*, a new species of diminutive (maximum length < 115 mm) West African *Leptotyphlops* based upon a series of 13 specimens from south-central Côte d'Ivoire. It resembles *L. bicolor* but differs in having a lower number of mid-dorsal scales, a relatively longer tail with higher number of subcaudals, an enlarged, hexagonal prefrontal (broader than deep and at least twice as large as supraocular), a tail terminating in a vertically compressed ridge, a relatively stouter body, and a smaller average and maximum size. The visceral anatomy is described, based upon male and female paratypes, and a key to the *Leptotyphlops* of Côte d'Ivoire is presented.

RUSSELL'S VIPER REVIEW

W. Wüster [1998, Hamadryad 23(1):33-40] reviews the systematics and natural history of Russell's viper (*Daboia russelii*, formerly *Vipera russelii*). The two recognized subspecies (*D. russelii russelii* and *D. russelii siamensis*) are described, and the available literature data on systematics, distribution, natural history and medical importance are summarized, with particular emphasis on the geographic variation in venom composition and clinical effects found in this species.

FRIGHT RESPONSE IN SOUTHERN TOAD TADPOLES

H. Lefcort [1998, Copeia (2):445-450] used laboratory experiments to determine whether groups of southern toad (*Bufo terrestris*) tadpoles alter their activity levels and use of refugia when exposed to chemical, but not visual, cues from predacious, two-toed amphiuma (*Amphiuma means*) and eastern lesser sirens (*Siren intermedia intermedia*). Amphiuma and sirens hunt by tactile cues. Also explored was the effect of the predator's diet on the behavior of tadpoles and the tadpole's reaction to an extract of crushed toad tadpoles. Predator-avoidance behavior may occasionally cause some prey to erroneously react to predators that find the prey species distasteful. To examine this behavior, this study tested the tadpole's reaction to warmouth sunfish (*Lepomis gulosus*) an organism that preys on many tadpoles but not distasteful toad tadpoles. Although many tadpole species school, behavioral tests of tadpoles are often carried out using single tadpoles. Therefore, the effect of group size on tadpole antipredatory behavior was also explored. Tadpoles decreased their activity levels when exposed to water that had been in contact with sunfish but not sirens, amphiuma, or southern leopard frog (*Rana utricularia*) tadpoles. The tadpoles' response to sunfish may be adaptive in that naive fishes must sample toad tadpoles to learn that they are distasteful. Tadpoles were able to differentiate between predators (sirens and amphiuma) fed toad tadpoles and predators fed leopard frog tadpoles. The size of tadpole groups influences their response to predators. Tadpoles in groups of eight and 20 decreased movement to a similar degree, but lone and paired tadpoles moved even less, often freezing during an entire trial. Future antipredatory behavioral tests of tadpoles that school should be performed on groups of more than two tadpoles.

TWO NEW SPECIES OF *CLELIA* FROM BRAZIL

F. L. Franco et al. [1997, J. Herpetology 31(4):483-490] describe two new species of *Clelia* from Brazil: *Clelia quimi* from southern, southeastern, and west-central Brazil, and *Clelia montana*, which is probably restricted to the highlands of northwestern São Paulo and southern Minas Gerais. *Clelia quimi* appears to be closely related to *C. bicolor*, being distinguished from the latter by the number of ventral scales and the color of the supralabials. *Clelia montana* seems allied to *C. rustica*, differing from the latter by the numbers of supra- and infralabials and the generalized color pattern.

THERMAL CONSTRAINTS ON EARLESS LIZARDS

F. Bashey and A. E. Dunham [1997, Copeia (4):725-737] compared the intensity of thermal constraints on the activity of the lizard *Cophosaurus texanus* found in two populations in Big Bend National Park, Texas. The low elevation site was known to be hotter than the high elevation site; the study investigated whether this coarse-grain environmental difference was relevant to *C. texanus*. The authors used hollow-bodied copper models and transect sampling to measure the operative environmental temperatures and relative availability of microhabitats at both sites. Based on laboratory measures of the critical thermal extrema and the range of fieldactive body temperatures of lizards, they estimated the percent of the environment thermally acceptable to *C. texanus*. The higher site had on average more than 70% of operative environmental temperatures thermally acceptable during midday, whereas the lower site had less than 20%. Thus, the authors concluded that the activity of *C. texanus* should be more constrained by the thermal environment at the low elevation site. To verify this result, they compared the actual microhabitat use patterns of lizards at each site with a null model of random use of thermally acceptable microhabitats. Predicted preferences more closely matched the observed behavior of lizards from the low elevation site, demonstrating that the activity of lizards at this site was more greatly influenced by the thermal environment than at the high elevation site.

A NEW SPECIES OF WORM SNAKE FROM CHAD

D. E. Hahn and V. Wallach [1998, Hamadryad 23(1):50-62] describe *Leptotyphlops adleri*, a new long-tailed species of the *Leptotyphlops longicaudus* species group. The description is based on three specimens from the savanna of southwestern Chad, at the border with Cameroon. The new species is named in honor of Kraig Adler. Additionally, the authors present comments on the systematics of Old World *Leptotyphlops*. They show *L. brevicaudus* to be a synonym of *L. bicolor*. *Leptotyphlops gestri* is reduced to the rank of a subspecies and considered a race of *L. sundewalli*, which is probably restricted to Fernando Po Island, Gulf of Guinea. *Leptotyphlops fitzingeri*, *L. variabilis* and *L. macrorhynchus bilmaensis* are considered synonyms of *L. cairi*. *Leptotyphlops debilis* is shown to be a synonym of *L. narirostris boueti*. *Leptotyphlops macrorhynchus algeriensis* (new combination) is recognized from northwestern Africa, and *L. hamulirostris* is considered a synonym of *L. m. macrorhynchus*.

Advertisements

American Federation of Herpetoculturists: A nonprofit national membership organization of herpetoculturists, veterinarians, academicians and zoo personnel involved in the captive husbandry and propagation of amphibians and reptiles. Membership includes highly acclaimed magazine, *The Vivarium*, dedicated to dissemination of information on herpetocultural accomplishments, herp medicine, breeding and maintenance, field studies and adventures, enclosure design and much more. AFH membership is $26. Send information requests to: AFH-News, P.O. Box 300067, Escondido CA 92030-0067.

For sale: *Bulletin* boxes, $10 each. Library quality with "Chicago Herpetological Society" imprinted. Each container holds about two years' worth of *Bulletin*s. Send check or money order to Chicago Herpetological Society, 2060 N. Clark Street, Chicago IL 60614. Allow four weeks for delivery.

For sale: rats and mice—pinkies, fuzzies and adults. Quantity discounts. Please send a SASE for pricelist or call Bill Brant, *THE GOURMET RODENT*, 6115 SW 137th Avenue, Archer FL 32618, (352) 495-9024, E-mail <GrmtRodent@aol.com>.

For sale: murine-pathogen-free rats and mice available in all sizes, live or frozen: pinkies, fuzzies, crawlers, small, medium and large. Frozen crawler mice in lots of 2000, $.17 each. Also available, full grown hairless mice. FOB shipping point. Master Card accepted. Call (518) 537-2000 between 8:00 A.M. and 5:00 P.M. or write SAS Corporation, 273 Hover Avenue, Germantown NY 12526 for prices and additional information.

For sale: from **The Mouse Factory**, producing superior quality, frozen feeder mice since 1989. Our mice are frozen separately and vacuum-packed to greatly extend freezer life by reducing freezer burning and preserving vitamin and nutrient content. We feed our colony a nutrtionally balanced diet of Mouse Chow and four types of natural whole grains and seeds. Prices: pinkies, $25/100; fuzzies, $30/100; weaned, $35/100. Quantity discounts available. Ray Queen, P.O. Box 85, Alpine TX 79831. Call (800) 720-0076 or E-mail us at <mousefac@overland.net>. Fax (915) 837-0156.

For sale: from Bayou Rodents, excellent quality feeder mice and rats. Every size available. Pinks starting at $20/100. Orders are shipped by overnight service Monday thru Thursday. We accept Visa, MasterCard and Discover. For more info, contact Rhonda or Peggy, (800) 722-6102.

For sale: **high quality frozen feeders**. Over a decade of production and supply. Seven sizes of mice availabe: small newborn pinks up to jumbo adults. Prices start at $25 per 100. Feeders are separate in the resealable bag, not frozen together. Low shipping rates. Free price list. Kelly Haller, 4236 SE 25th Street, Topeka KS 66605, (913) 234-3358 evenings and weekends.

For sale: Herp bags—colors vary, translucent ripcord nylon, super lightweight, extremely durable construction with hot corners sewn in, double seamed. Custom sizes made upon request. Sizes: 46" × 14", $7 each; 24" × 12", $6 each; 24" × 6", $5 each. Shipping fees, $1 for first bag, $.30 each additional bag. Nicole Lechowicz, 2511 S. Illinois Avenue, #104, Carbondale IL 62901, (618) 457-2783.

For sale: Gila monster drawing on Gila Bend car license plate, $20 postpaid. Tom Taylor, 1433 W. Huntington, Tempe AZ 85282, (602) 967-6265.

For sale: 24" Neodeshas with glass, elongated vent and litter dam, three left, $40 each; 4" wide Flexwatt heat tape with clips, $8; 11" wide Flexwatt heat tape, two feet long, with rheostat, three left, $8 each. All supllies have rarely or never been used. Marc, (815) 293-0989 (Romeoville).

For sale: **SALE! Berwyn pick-up only.** two nice 23" × 15" × 14½" wood cages with Plexy window, hinged front opening, internal lightbulb sockets and plug fixtures, linoleum floors, $50 each; **new** (never used) 4', glass door, Neodesha cage with dam, $160; three 2' Neodesha cages (used), Plexy doors, $25 each; 48" × 18" × 24" wood (redone hi-fi cabinet), top-opening, Plexy window, vinyl-lined cage (iguana!), $40; aquarium-style (doesn't hold water) 44" × 25" × 30", metal frame, slate bottom glass cage on castered wood platform with (torn) screen top, $30; 50" × 28" × 24" wood frame, mostly wire, tabletop cage, with Plexy side openings, $10; two new silver-metal-frame screen tops for 15-gal./20-gal. tall tanks, $8 each; heated plastic lizard limb, $7; two-piece heated Repti-heat cave, $7; several 18" × 12¼" × 6⅜" plastic giant Superpet Aquatariums (sweaterbox-type cages), nearly new, $15 each; three 8½" to 14" cage decorations, driftwood with slate base, $5 each; two new, large, plastic hide boxes (paid $6.60 each), 2/$10, one of the same, used, $2. Call Janice, (708) 484-7307, leave a message, please.

For sale: Selling most of my collection. Great prices—some freebies! Some herps, but mostly arachnids. Andy Davies, (773) 279-1541.

For sale: one male and one female adult African black mud turtles, *Pelusios subniger*, male normal, female is only known leucistic (creamy yellowish-white with black pupils), $1600/pair; adult female Forsten's/Travancore tortoise, $300; breeding group (three male, three female) of elongated tortoises, $1200/group. Also, two male and three female adult Kleinman's tortoises. Select trades considered. Dr. Richard S. Funk, Care Animal Hospital, 511 E. Bloomingdale Avenue, Brandon FL 33511, (813) 684-7387 telephone, (813) 681-4919 fax.

For sale: one leopard tortoise, one *sulcata*, both yearlings, $50 each; one 10" male leopard tortoise, $75; one 10" male *sulcata* "with a deformed shell," free. Will sell only to responsible persons who will give the best care. Colin, (773) 784-4669.

For sale: c.b. redfoot tortoise, 7", $175; hatchling Sinaloan milksnakes, $30; 3' male desert Cal kingsnake, excellent b&w contrast, $60; one male and two female Sinaloan milksnakes, hatchlings produced for the last three years, $250/trio. Marc, (815) 293-0989 (Romeoville).

For sale: adult female light-phase gray-banded kingsnakes, proven breeders, $250 each. Tom, (602) 967-6265.

For sale: I'm offering a variety of trans-Pecos rat snakes for sale this year. All of the animals are either axanthic or hetero for axanthicand all are from captive-born parents from two distinct bloodlines. This includes adult hets, yearlings and anticipated '98 offspring. Pictures should be available in an upcoming *Vivarium* Magazine. Adult male hets, $275; yearling het. normals, $175; yearling het. patternless, $375; yearling axanthic normals, $575; '98 axanthic normals, $450; '98 axanthic patternless, $700. Normal patterned and patternless hets should also be available; inquire Troy, (573) 642-9422.

For sale: **Mutant bulls and lots of them!** 1998 hatchlings include: albinos (het. for snow), $100; anerythristic (male), $100; hypomelanistic double het. (male), $200; hypomelanistic double het. (female, imperfect), $125; **snow bull** (male), $500. All in perfect health, sexed and eating well. Beautiful patterns and colors from outstanding parents! Other 1998 offspring available: **northern blue tongue skinks** (*intermedia*), $50; black pines, $35. Also: **adult male Colombian boas**, proven breeders, flawless, $100 each. Jim, (414) 654-6303 after 6 P.M. Located just north of Chicago in Wisconsin.

For sale: beautiful, tricolor kingsnakes. Send SASE for **free** list. Also, free phone consultation on snake husbandry problems as a service to the herp community. Robert Applegate, P.O. Box 338, Campo CA 91906, (619) 478-5123. Thank you for your attention.

For sale: diamond and jungle carpets, $175 each; Macklot's pythons, $100 each; Children's pythons, $100 each; creamsicle corns, $40 each; albino corns, $22 each; snow corns, $20 each; bubblegum corns, $25 each; candy-cane corns, $35 each; het creamsicle corns, $15 each; Vegas Cal. kings, $20 each. **Adults**: creamsicle, $60; het ghost, $60; Children's python, $150; ball pythons, $175/pair; Dumeril's, $600/pair; Argentine rainbows, $500/pair; Haitian boas, $150/pair; Brazilian rainbows, $250 each; Indonesian bluetongue skinks, $55 each. Flexwatt heat tape, $2.50/ft, $5 each connection. Steve Bostwick (515) 274-4580, E-mail <liasis@juno.com>. [IA]

For sale: cutting back collection size. Two male and one female adult Dumeril's boas, *Acrantophis dumerili*, 6–7', $800/pair; one male and one female yearling Australian olive pythons, *Liasis olivaceus*, $800/pair; two male and two female Timor pythons, *Python timorensis*, 7 years old, 8', $6000/group; 28 male and 17 female newborn and adult rough-scaled sand boas, *Eryx conicus*, $100–300/pair; six male and 12 female subadult and adult smooth-scaled sand boas, *Eryx johni*, $225–300 each. All adult snakes are long-term captives or c.b. David Sorensen, 4100 N. 78th Street, Milwaukee WI 53222, (414) 463-6164, E-mail: <davesor@execpc.com>.

Advertisements (cont'd)

For sale: green tree pythons—female, light green with lots of blue marking, long-term captive, tame, ready to breed—male, 2-year-old, captive born, high blue vertebral striping, yellow sides, docile and a great eater, $600 each or $1100/pair. Also, 2-month-old, c.b., 50/50 Cal kings, $50. Mark Petros, Strictly Serpents, (847) 854-3259.

For sale or trade: pair of Mali uromastyx. Call Peter, (815) 795-3959.

Tours: Adventure tours to Madagascar! Join **Bill Love** seeing and photographing fauna and flora, heavily herp-biased, across the world's least known mini-continent. Maximum fun & photo ops assured on every trip. Contact him at: BLUE CHAMELEON VENTURES, P.O. Box 643, Alva FL 33920. TEL: (941) 728-2390, FAX: (941) 728-3276, E-MAIL: <blove@cyberstreet.com>.

Tours: **Road-riding in Costa Rica!** Treat yourself to the trip of a lifetime! Learn about tropical herps, find them, photograph them, see where they live. **Greentracks, Inc.**, offers the best herpetological tours led by internationally acclaimed herpetologists and herpetoculturists. See the Amazon, visit cloud forests, experience the world's greatest rainforest, super sunsets and good company. Call (800) 9-MONKEY.

Wanted: I wholesale a wide variety of colubrids and am always looking for distributors who value quality-bred animals. Troy, (573) 642-9422.

Wanted: Photos (non-professional) of reptiles or other animals to be put on animal trading cards. These feature an animal on the front, with species, origin, etc. on the back. We give these away during our outreach programs. All photos will be returned if you include your name and address. Also looking for pelts, shed skins, mounted animals and eggs (preserved or unviable) to be preserved for use in our programs. Wildlife Educators, P.O. Box 202, Marseilles IL 61341, (815) 795-2015. E-mail: <wei@mtco.com>.

Wanted: sand boas (*Eryx elegans*, *E. jayakari*, *E. muelleri* and *E. somalicus*). David Sorensen, 4100 N. 78th Street, Milwaukee WI 53222, (414) 463-6164.

Wanted: adult bearded dragon and Chinese water dragons. Call Peter, (815) 795-3959.

Wanted: big-headed turtles; mata mata turtles; Mexican giant mud turtles (*Staurotypus triporcatus*); exceptionally large common snappers (45 lbs. & up); large alligator snappers (over 90 lbs.); spectacled caiman from Trinidad, Tobago and Surinam; dwarf caiman; smooth-fronted caiman; albino turtles (except red-eared sliders). Walt Loose, (610) 926-6028, 9:00 A.M. – 1:00 P.M. or after 11:30 P.M. Eastern Time.

Wanted: Any dinosaur toys or dinosaur-related items for 1999 ReptileFest's new DINO-RAMA exhibit next May 1-2, 1999. Any items to be donated should be brought to any CHS general meeting. Contact: Gary Fogel, (773) 935-6938.

Line ads in this publication are run free for CHS members — $2 per line for nonmembers. Any ad may be refused at the discretion of the Editor. Submit ads to: Michael Dloogatch, 6048 N. Lawndale Avenue, Chicago IL 60659, (773) 588-0728 evening telephone, (312) 782-2868 fax, E-mail <MADadder0@aol.com>.

Answers to the September Herp-Acrostic

The quotation in last month's Herp-Acrostic was taken from page 2 of *Reptiles and Herbivory* by [Gillian] King: "The cell wall is the plant's ultimate line of defence against being eaten: cell walls require that herbivores acquire enough specializations to break them down effectively enough to make herbivory worthwhile."

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UPCOMING MEETINGS

The next meeting of the Chicago Herpetological Society will be held at 7:30 P.M., Wednesday, October 28, at the Field Museum of Natural History, Roosevelt Road at Lake Shore Drive, in Chicago. Our speaker will be **Kim Maheuron**, an Environmental Specialist with the Collier County, Florida, Department of Natural Resources. Kim will talk to us about sea turtles and specifically about the sea turtle monitoring program in Collier County, in the vicinity of Naples, Florida.

The speaker at the November 25 meeting will be **Dan Warner**, a CHS member who is currently a graduate student in the Biology Department at Virginia Polytechnic Institute and State University in Blacksburg, Virginia. Dan will speak about his research project, undertaken while he was a student at Iowa State University, on an Illinois population of six-lined racerunners, *Cnemidophorus sexlineatus*.

Also at the November meeting our annual election of officers and members-at-large of the board of directors will also take place (see the Absentee Ballot enclosed in this issue).

We are required to use the entrance on the west side of the museum. **We are allowed to use the free parking lot to the west of the museum. Entrance to this lot is from McFetridge Drive, the wide street just to the south, between the museum and Soldier Field.** Public transportation is an option: the Roosevelt Road (12th Street) bus now goes directly to the museum, thus providing a connection with the el and subway. This bus service runs until 11 P.M.

Turtle Club

The Chicago Turtle Club will meet Sunday, October 18, at the North Park Village Nature Center, 5801 N. Pulaski, in Chicago. This meeting is Touch a Turtle and Tickle a Tortoise Day..... A chance to meet and greet the public. All CHS and CTC members are welcome to participate. Set-up begins at noon. The crowd drifts in from 1:00 to 3:30 P.M. We have book and magazine displays, craft ideas, hand stamping (with turtle stamps, of course) and a husbandry display. Members bring in posters, both store-bought and handmade. It's a short show, only 2½ hours, but generally a lot of fun. There will also be a photographer there if anyone is interested in bringing in a photogenic chelonian — the best photos will be put on the CTC web site, <http://www.geocities.com/~chicagoturtle>.

MOVING??

Please let us know in plenty of time of any change in your mailing address. The *Bulletin of the Chicago Herpetological Society* is sent to our U.S. members by bulk-rate third class mail. This means that the U.S. Post Office will not forward your *Bulletin* with the rest of your mail. This is so even if you make a special request that your magazines be forwarded (such a request only applies to second class mail).

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